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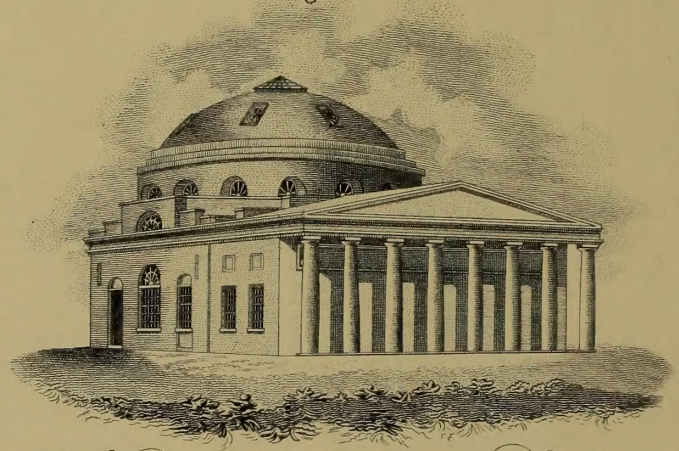

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

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(CORRECTED TABLE OF CONTENTS)

UNIVERSITY OF MARYLAND

THESES

1877 (c)

Author	Title	Notes
Hopkins, D. W.	Report of Six Cases	
Butter, John B.	Acute Croupous Pneumonia	
Gordon, L. Charles	Diphtheria	
Laws, Cassius D.	Pneumonia	
Sigler, George P.	Hygiene	
Hargrove, R. H.	Cirrhosis of the Liver	
Sledge, James T.	Diphtheria	
Ellis, Robert H.	Cholera Infantum	
Van Bibber, Claude	Gun Shot Wounds of the Abdomen	(Bound out of order)
Irwin, J. Robinson	Hypertrophy of the Heart	
Harvey, G. B.	Typhoid Fever	
Shubrick, J. Templar	Ovariotomy	
Andrews, George W.	Diphtheria	
Briel, Frederick	Iritis	
Doerner, John A.	Report of Six Cases	
McCormick, Thomas P.	Digestion and its Derangements	

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Author	Title	Notes
Author Unknown	Amputation of the Forearm	(No title page)
Whiteside, B. Frank	Acute Croupal Pneumonitis	
Hunley, Luther B.	Pneumonia	
Jacobs, James K. H.	Croup	(Text lost in binding)

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Ellis, R. Robert H.	Cholera Infantum (1)	20p.
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Doerner, J. John A.	Report of Six Cases	11p.
McCormick, T. Thomas P.	Digestion and Its Derangements	40p.
Anonymous Author Unknown	Amputation of the Forearm	10p. No title page
Whiteside, B. F. Frank	Acute Croupal Pneumonitis	13p.
Hunley, L. Luther B.	Pneumonia	27p.
Jacobs, J. James K. H.	Croup (3)	31p.

(1) Long pages, all folded at bottom

(2) Pages out of order

(3) Some text of thesis lost in inner margin during binding process

A Report of Six Cases.

Submitted to the Examination
of the
Board of Regents and Faculty of Physic
of the
University of Maryland.
for the
Degree of Doctor of Medicine
by
D. W. Hopkins
of the
Class of 1877.

37

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A Report of Six Cases

No I. John King - Colored - Occupation, Farmer - Height - 170 - Age 42

Apl 6th 76.

This man has been sick since Christmas, when the cough and shortness of breath came on, and swelling of his lower limbs occurred. Shortness of breath especially on going up stairs. Bowels have been regular. Pulse this evening one hundred. Dyspnoea increased after coughing. Complains of no pain. Temperature ninety eight and three fifths. Near the spine little respiratory murmur could be heard. On the right side dullness on percussion, extending from the fourth rib downwards

Absence of vesicular murmur and bronchial respiration. On measuring the chest there was found the difference of one inch between the two sides. nine[teen] inches on the right side and eighteen on the left side.
Apl 7th This morning the aspirator was used and eighty fluid ounces of fluid were drawn off which was Serous in character. About this time the patient began to suffer from pain in his chest and coughing, then the needle was with drawn leaving an unknown quantity of fluid in the chest which was afterwards drawn off by Prof' Donaldson. This morning he feels better since fluid was extracted, no pain excepting when he coughs, and this he does not do so much since he was aspirated. Breathing easier, and Appetite good.

Apl. 8th To day I find him considerably improved having taken Laterium in half grain doses, and his shortness of breath also his pain relieved, Appetite good. One action from his bowels. Pulse one hundred. Apl 9th Coughed a great deal last night which prevented his sleeping, consequently not feeling any the better for it. Shortness of breath increased by coughing. Expectoration difficult. Complains of pain in his head and swelling of his limbs, heats and unable to lie down. Passage from his bowels small. This evening we find him no easier, but pain, the troublesome cough and his soreness in his abdomen increased. Appetite not altered. Expectoration kind of frothy. Exercise increases shortness

of breath Pulse ninety six and his bowels somewhat constipated. Had a slight action from them this morning, Swelling still continues. Respiration thirty two So we gave him three compound Cathartic pills, to take and Brown mixture to quiet cough.

Apl 10th. This morning we find his symptoms the same and action from his medicine. Brown mixture continued. This afternoon Prof Donaldson made an examination and discovered complications. Systolic murmur caused by insufficiency of mitral orifice. - Friction Sound, and dullness on percussion. The former on the right side and the latter on the left side one inch below the angle of the Scapula. No inflammatory action on the left side;

dullness being caused by passage of fluid from the right to the left side. There is absence of vesicular murmur on the right side. This evening at Six o'Clock he felt better every way. Pulse one hundred. Respiration thirty Six. His treatment consists of the Syrup of the Iodide of Iron in thirty drop doses three times during the day along with one half ounce of whiskey.

April 11th. This his Sixth day I find none the better; but slept well during the night. Bowels acted, and appetite remains unimpaired. At six this evening there is no change, but complains of pain in his joints, and palpitation of his heart. Treatment the Same,

Apl. 12th. Unfortunately we found him none the better after this mode of treatment. Dr Ashby having ordered the Calomine in half grain doses and Syrup of the Iodide of Iron with the usual amount of whiskey to be continued. In fact this plan of treatment was continued until Apl the 14th with no decided improvement and on this day Dr Donaldson examined him and says he has slight bronchitis and may have effusion of pericardium.

Nothing more was done than to administer Ammonia Carb. every three hours along with the other remedies. We continued this manner of treatment until the Seventeenth when Dr Donaldson called and after an examination, used the aspirator for the Second time and drew off twenty

fluid ozs of serous fluid. There was dullness on percussion on the right side before operation. As soon as the instrument was introduced cough became much easier and stopped to a certain extent.
After all this attention no decided improvement took place, and all that remained was to continue the same treatment which was done faithfully by the Ward master.
He breathed his last at seven oclock, Apl. 19th after an illness of twelve days.
What is remarkable about this mans case, is, that his appetite did not fail him throughout his whole illness,
Apl 19th Death from Subacute Pleurisy, complicated with thickening of the mitral valves of the heart. Result of Post Mortem,

Pleural cavity contained a considerable amount of effusion, especially on the right side. The upper portion was clear, but near the bottom it was turbid from the admixture of coagulated fibrin or lymph which is the characteristic product of inflammation. Deposit of fibrin in the left ventricle of the heart. Thickening of the mitral valve, sufficient to account for the death, together with the Subacute Nursing. There was a slight perforation of the Tricuspid valves. No deposit in the lung but a calcareous degeneration, the effect of the Subacute bronchitis. Kidneys and Liver normal. Dropsical effusion into the areolar tissue over the lower extremities, also into the scrotum and penis.

No. II. John Brown - Occupation - Clerk, Age 23, Sept 30th

During my Sojourn at home this Summer I was called upon to visit a young man laboring under intermittent fever, commonly called ague by those who inhabit malarious districts and are frequent sufferers of this malady. On my arrival I interrogated the young man as to the cause of his attack, and found that two days previous he had remained out a portion of the night in a rain Storm, and the remainder of the night he sat up by a hot fire with his wet clothes. The following evening he was taken with the usual Symptoms of ague 1 if may be permitted to use the term for brevity - First the chill, Secondly the fever

and thirdly the Sweating. after these have subsided and intermission from twelve hours to twenty four and frequently much longer. After the first attack passed off his his Mother administered Somil purgative pills composed of the following ingredients Ext Cohocynth Comp grs vi, Calomel, grs vi and Rhei grs vi made into three pills following these in the morning with a Seidlitz powder. A slight operation followed the medicine, In the afternoon he was taken with a chill after that a high fever during which he was partially out of his mind. This having passed off in an hour or two I administered Calomel grs viii and Six hours later half ounce of magnesia Sulph which produced a copious evacuation The next things was to pour in one of the

Salts of Quinia the Sulphate was used in five grain doses four times during the day. Called next morning, and found that a chill had just passed off, and was at the time suffering with a very high fever, not possessing a thermometer was unable to take temperature. At any rate I immediately suspected foul play, that is, that my quinia had not been taken but could not make myself satisfied on that point, while there I ordered mustard plasters to his wrists ankles and back of his neck, which in a few minutes relieved him from great pain. Then I ordered the Quinia to be continued, first giving him ten grs immediately after powers and then five grain doses at intervals of four hours until twenty grains

had been taken during the day, which completely broke up the chill. The internal use of chloroform has been recommended by Dr A. P. Merrill a practitioner of New York. Given in Zi doses either alone, followed immediately by cold water or suspended in mucilage has been found to arrest progress of chill and induce refreshing sleep, which the patient enjoys as he awakens from it, without prostration. This plan of treatment is recommended by Dr McClellan who report cases successfully managed by himself. Several others have born testimony to this valuable remedy given in proper and repeated doses as a prompt and safe hypnotic.

'Quoted from Flint.'

I think I will try this plan of treatment if I am permitted to try it. Though Quinia is the most reliable of all remedies, Arsenic given in Fowlers Solution is recommended, but this is to dangerous a medicine for patients to use by themselves. In reporting this case I did not think it necessary to inform You of the methods that are gone through by the Physician to relieve patient while suffering from the the three Stages, The patient can inform you what to do himself - and frequently they are their own Physicians. The secret of the treatments is here That the patients continue to ward off attacks by Taking small doses of Quinia Every Morning for weeks;

No III.

May 13th Bramble- Labover- Age 41.

Recd an injury about twelve years ago, at which time he was a Sailor, which caused him to be ruptured Never gave him any trouble consequently he wore no truss Last Monday he ate something that upset his Stomach and caused emesis, and under the violent efforts at vomiting a portion of the omentum was extruded, and being compressed by the edge of the opening through which it escaped was prevented from returning; this being a case of Strangulated omental Hernia. Was admitted on the 12 of May and at five oclock P.M. Chloform Operated, incisions were made into the different coverings and an attempt at reduction which failed He opened

the sac and found it and the protruding omentum very much inflamed and congested, he excised. The external wound was closed over the stump and dressed with carbolized oil. The 'Hospital Stand-by.' He took pill of opium every 3 hours but obtained very little sleep. This morning no improvement, pain extending up as far as ensiform cartilage. Temperature one hundred. Pulse eighty, ate very little. Whiskey and milk diet principally. Hes trouble increased during the day. Respiration shortened, pain in abdomen increased, and in the evening his pulse went up to one hundred and fifteen. Temperature one hundred and a quarter. Symptoms together with others substantiate substantiate the diagnosis.

of acute Peritonitis of traumatic origin
Opium in one and and a half grain do-
ses were administered every few hours
along with whiskey. The external wound
was dressed with Carbolized oil and
a flaxseed poultice to his abdomen
At bed time a quarter of a grain
of morphia was administered to
procure rest. May 14 Rested some
last night though feels weak. Ate
a piece of bread and drank a
cup of coffee. Pulse very small and
rapid so much so that it was impos
sible to count it. Temperature one hun-
dred and one. Expression haggard
and anxious though no delirium.
Dr Chisolm called to see him and
said his pulse was one hundred and

fifty or sixty; so he ordered him
Zi whiskey every hour and hot-bricks to his
feet and extra covering on account
of his coldness, also a hyperdermic was
given after which he took whiskey
every ten minutes, Four hours after
the first hyperdermic a second was
ordered, At 2 o'clock he was carried
off in a paroxysm of vomiting, Thus
showing a short attack of acute
Peritonitis, and his death by rapid
asthenia.

N IV. Case of Sporadic Dysentery.

The following is a synopsis of the Case
Mary Jones Colored Age 30 - Occupation. Washerwomen
I was called to see this women one day
last July and found her suffering from
the above disease. On interrogating her

I discovered that that she had been indulging in to much improper food and her surroundings not the best the city afforded. She informed me the diseases had come on in the ordinary form of a diarrhoea; that is, more or less discharges occurring frequently and feculent in character, as these dejections in mine cases out of ten precede the characteristic dysenteric ~~evacuations~~ and now her calls to the stool were more frequent and bloody in character mixed with mucous; that the calls were attended with severe pain and straining and towards the last nothing but a drop or two of bloody serum passed.

There was more or less tenderness on pressure over the descending colon, and more or less over the whole intestinal canal. Pulse not at all accelerated, with little or no fever. the tongue was coated. She complained of extreme emaciation. Skin moderately hot, and some of the other. Symptoms peculiar to this disease were present, though these were sufficient for a diagnosis. Sporadic Dysentery is a disease if left to itself will in the majority of cases recover. But as the people at large believe in medicine, used it, especially as I was over anxious to try ipecac. Since Flint speaks of it highly and a remedy that John Helvetius the grandfather of the

famous author of that name having been associated with a merchant who had imported a large quantity of that drug into Paris, employed it as a secret remedy and with so much success in Dysentery and all bowel complaints, that general attention was drawn to it and the fortunate Physician received from Louis the XIV a large sum of money and public honors on condition that he should make it public. Though I was advised not to try this plan of procedure as it was rather dangerous, not being able to watch its effects, but I could not let the opportunity pass. So made up my mind to adopt this remedy

No. 11. Age 50.

Aug. 24th.

This lady I had an opportunity of witnessing last Summer with my Father laboring under her usual attack, Asthma. He went in the room and found her unable to place herself in the recumbent position, and requesting fresh air and resting her elbows upon her knees part of the time, the remainder on the side of the lounge; perspiration was profuse; Expiratory act was prolonged, and accompanied with a Sonorous wheezing in tone; Inspiratory act was rather spasmodic in character, which is the pathognomic sign of this terrible disease. Her pulse was small due to obstruction of pulmonary circulation, by an accumulation of

blood in the right cavities of the heart.

Very little cough existed prior to the paroxysm, it is generally a sequel lasting for several days. She dreaded to move her body, as the change of position increased her suffering, countenance extremely anxious. He inquired as to the cause and found that her husband an uncough- and rough sort of an individual came in the house out of humor, and using profane language consequently putting every one in nervous condition and especially his wife, which we ascribed as the cause of the paroxysm. She was given sulphuric ether to inhale and a little every few minutes internally to relieve the paroxysm which accomplished it in the course of a half hour, after that she went

off into a tranquil sleep, and in the course of a few hours afterwards she was taken with an other paroxysm this they relieved according to the plan my Father had adopted, I said this was brought on by a nervous condition, still there was a foundation for this to act upon and that was a bronchial affection. Some think it is a neurotic affection, others take an essential fever, and by others still it is considered a peculiar variety of bronchitis. In fact it is neither separately but each one entering into the disease, The remainder of the treatment was Potas Iod & Potas Bro which gave her great relief. These I asked my Father to try which he did to success. I think he adopted other measures

for treatment which were given when I was out, though the Potash was renewed several times by them, Prof Chen says give a person suffering in one of those paroxysm, a hypperdermic of Morphia and it will instantly afford great relief. Tinc Belladonnae in 10 m doses is recommended by several, repeated every two hours until vision is disturbed. Stramonium is highly spoken of, especially smoking the dried leaves, or fibres of the root either in the pipe or in cigarette form. Many are the ways to treat it, and this lies in the land of the practitioner, if the patient has not learned herself, which is frequently the case as they suffer such agony, that almost instant relief is required before medical aid arrives.

No 6th.

Sept 12th This is a case of a young Girl age 15 Years Suffering from a Severe chill every day or two for a week and afterwards on aching in her bones, head pained and Several prostration, She had been laboring under this condition for Several weeks before my attention was called to her case, In the meantime She had been taking Dr Ayers celebrated ague mixture, which answered the Same purpose that most all Quack medicines do. This Girl living at home I had an opportunity of watching her case and trying my skill.

Her chills are rather longer than

the general run, and fever high accordingly. Not having a thermometer with me was unable to ascertain her temperature. I thought as Tonic Solution was rather a cheap remedy, advised her to get it and take three to five drops three times a day, and gradually increase until eight or ten had been taken. This plan was continued for two or three days with no decided improvement. So I stopped and commenced the Quinia Sulphas in five grain doses for the first two at five hours interval between the doses and after that three grs were administered with a little milk as it left such a bad taste and this seemed to satisfy her until sixteen grs had been taken during the twenty four hours.

From this I immediately got better results and continued the Gumia in two grain doses every morning for two weeks along with a little iron three times during the day for the purpose of strengthening her, & at the expiration of a week she felt rather like a norther person and so continued as long as I could hear of her.

Finis.

A Thesis on

Acute Croupous Pneumonia

By

John B. Butler

Presented to the

Professors of the University

of Maryland. School of Medicine

February — 1877

Gentlemen

In compliance with the rule respecting the preparation and presentation of a "Thesis" I submit to your respectful consideration the following on the Subject of Acute Croupous Pneumonia.

Definition.— Inflammation of the parenchyma or Spongy Substance of the lungs. Croupous is applied to this form of pneumonia on account of the exudation resembling that of Croup being tenacious and containing fibrin. It also distinguishes it from another form called Catarrhal pneumonia the exudation in which contains no fibrin. In Croupous pneumonia one entire lobe is usually effected and very often more than one lobe. Hence it is called

lobar pneumonia. The lower lobe of the right lung is the seat of inflammation in the majority of cases. though it is frequently found in the lower lobe of the left side, and in a pretty large percentage of cases it attacks primarily an upper lobe of either the right or left lung. When a lobe or more on each side are affected it is called double pneumonia.

Morbid Anatomy. In pneumonia three stages are recognized. The first is called that of congestion or engorgement the capillaries become greatly distended with blood causing dyspnea or difficulty of breathing though in this stage the function of respiration is interfered with, yet the air is not prevented from entering the air-cells. There is a slight effusion of viscid albuminous fluid into the

alveoli. The lung substance in this stage presents a dark red. or a deep red. appearance. On section the blood flows freely from the cut surfaces.

The second stage. is known as the stage of red hepatization. It is characterized by an exudation into the air-cells which escapes from the blood through the small apertures in the walls of the capillaries. This exuded matter containing fibrin, when poured out into the air-cells, coagulates becomes solid, and excludes the air. from the air-cells, or vesicles, The lung substance. in this condition. is red. solid. and heavy. presenting the appearance of liver. hence its name "hepatization". from its resemblance to liver. When a piece of the hepatized

4

lung is put in water it readily sinks to the bottom of the vessel. The cut or torn surface has a granular appearance. The substance of the lung is more friable than it is in health. breaks down under the pressure of the fingers.

The third stage is known as the Stage of Gray hepatization. Called some times the stage of resolution. or absorption. In this stage the capillaries are compressed by the inflammatory deposit. the red coloring matter disappears from the coagulated mass. Pus begins to form. fatty degeneration and liquefaction takes place. and if the disease progress favorably. the liquid pus is soon removed by absorption and expectoration.

The air-cells remaining uninjured during their engorgement. The function of respiration is immediately resumed. But if the course of the disease be unfavorable the fibrinous liquid matter is not absorbed, and the lung substance becomes infiltrated. This is called purulent infiltration. Sometimes pus is collected in the substance of the lung, and abscesses are formed. Gangrene of the affected portion of the lung takes place sometimes but this rarely occurs. When gangrene does take place, it may be detected by the gangrenous fetor of the breath.

The duration of each of these stages varies considerably in different cases. The stage of congestion generally

lasts from twenty-four to forty-eight hours Sometimes the duration is Shorter and Sometimes longer. The congestion commences at one point in the lobe and extends from lobule to lobule until the whole lobe is involved And it may be seen by examining the lung of the patient that dies in this stage of pneumonia. That Solidification often commences in the portion of lung first affected. before a congestion has Extended over the entire lobe, Thus it will be seen that a portion of the lobe is in the state of congestion while the other is in the state of solidification

The second stage, or stage of solidification usually lasts from two to four days, though sometimes it is much shorter than this, and sometimes longer. The third stage or stage of resolution, usually lasts from three to six days, though often it last ten days, and even longer according to the constitution and strength of the patient. So we find the duration of this disease variable. In cases that progress favorably. the average duration is from ten to fifteen days. Symptoms. In this form of pneumonia, the attack is generally sudden with a chill in the night. From the beginning there will be high fever, headache, nausea and vomiting, with hurried respiration, and frequent pulse. There is often a perversion of the ratio, of the

pulse and respirations the respirations being more frequent in proportion,
There is marked elevation of temperature ranging from 102° to 104½° F. Sometimes reaching 106° or 107°. It is then regarded a very dangerous symptom, The skin is dry and hot. Dyspnea or laborious breathing with dilatation of the alae nasi. are very common symptoms in pneumnia, especially in the severe cases. as in double pneumonia, or even when one entire lung is involved,
Pain is a prominent symptom in the majority of cases. Though sometimes it is very slight and even wanting in some rare cases.
The pain is acute. lancinating and

is confined to a limited space about the nipple usually. It is due principally to pleuritic complication. and when the co-existing pleurisy is persistent extending beyond the limits of the inflamed portion of the lung. it is called pleuro-pneumonia.

The cough in pneumonia is usually troublesome. at first dry and more or less painful. Sometimes it is absent. The Expectoration is at first scanty and viscid. in the majority of cases it is tinged with blood known as the rusty sputum of pneumonia. In some severe cases. the sputum is thin. deeply stained with blood. and dark colored known as the prune juice expectoration

The Urine in pneumonia is Scanty, high Colored, and from the time Exudation commences until absorption of the inflammatory deposit takes place. there is a disappearance of the chlorides. which may be ascertained by a solution of the Nitrate of Silver. previously acidulated with a few drops of pure nitric acid by the application of this test. if the chlorides be present. they will be manifested in the form of a cloudy precipitate, if they be absent no change at all will be produced upon the Urine by the test. That the exuded matter contains a certain amount of the chlorides is evident from the patients complaining of a Saline taste in the mouth.

Marlarial influences will modify the Symptoms of pneumonia. This is a very common complication in malarial districts. The patients will complain of a dull aching pain in the back and limbs. They also have exacerbations of fever, and derangement of the function of the liver. Pneumonia sometimes assumes a typhoid character. There will be drowsiness, low, muttering delirium, and feeble pulse, with a tendency to extreme depression or diminution of all the vital powers of the organism. This form is known as the typhoid pneumonia.

But there is a distinction to be made between typhoid-pneumonia and typhoid fever with pneumonia as a complication

Physical Signs, In the first stage, On percussion there will be slight dulness over the congested portion of the lung, By auscultation the crepitant rale will be heard. this rale is heard only in inspiration. is produced by the air separating the adherent walls of the vesicles, The sound it produces resembles that of rubbing a lock of hair between the thumb and fingers &c., It indicate congestion of lung tissue,

In the second stage there is decided dulness on percussion, And increased vocal fremitus which may be readily ascertained by palpation, The crepitant rale disappears when the lung becomes solid. and tubular or bronchial respiration and loud vocal resonance or bronchophony

will be heard caused by the air in the larger bronchial tubes after the closure of the vesicles by the inflammatory deposit. In the third stage or that of resolution the expectoration is removed by absorption and expectoration, As resolution progresses the bronchial respiration is succeeded by the sub crepitant rale and sometimes the crepitant rale is heard in this stage also. Gradually all the abnormal sounds disappear and the signs of convalescence present themselves.

Causation. The most common cause of Acute Croupous Pneumonia is exposure to cold or wet weather, Extreme high temperature in summer renders the system more susceptible

to attacks of pneumonia in extreme cold weather, It occurs much more frequently in winter, than it does in Summer, It is liable to occur at any period of life, And oftener among males than females.

Diagnosis. When the patient is taken with a chill. Succeeded by high fever, hurried respiration, increased frequency of the pulse, And acute pain in the side. with slight dulness on percussion. rusty sputa. and crepitant rale, the diagnosis can be made positively, But as these Symptoms and signs are not uniformly present, pneumonia is liable to be confounded with other acute inflammatory diseases of the chest in the first stage, Though after the

disease passes into the second stage the differential diagnosis may be made without difficulty. by the aid of the physical signs. When the lung becomes Solidified we will have decided dulness on percussion - bronchial respiration. and bronchophony - with increased vocal fremitus. With these phenomena we may exclude ordinary bronchitis,

In pleurisy we may have dulness on percussion, caused by liquid effusion in the pleural cavity, but the line of dulness can be changed, by changing the patient from a sitting, to a recumbent, position which cannot be done in pneumonia

In pleurisy, if there be a sufficient quantity of effusion to cause bronchial respiration and bronchophony, there will also be bulging

of the side, and diminution of the intercostal spaces. Which will not be seen in pneumonia. In pleurisy vocal fremitus is very feeble, In pneumonia vocal fremitus is very much increased.

Prognosis. Uncomplicated pneumonia in persons previously healthy and vigorous is always favorable, the tendency being to pass through all the stages to recovery. In double pneumonia. the prognosis is less favorable though not necessarily fatal. In persons addicted to the excessive use of alcoholic Stimulants. the prognosis is unfavorable.

Treatment. In the first stage of acute croupous pneumonia. large doses of the Sulphate of Quinine should be given to act as an antipyretic. It may be given to an adult in doses. from ten. fifteen. or

even to twenty grains. In a child three or four years of age, four or five grains may be given at a dose. If the bowels be constipated a saline aperient should be given. For this purpose one or two drachms of the Rochelle Salt. or two to four ounces of the Liquor. Magnesii. Citratis. may be given. Great care must be taken not to purge. Opium should be given freely in the first stage. with a view to relieve pain. tranquillize the system. and to diminish inflammatory action. It may be given in the pulverized form. from half a grain to two grains at a dose. or the Sulphate of Morphia may be given hypodermically. from one eighth to a fourth of a grain at a time. Either in the arm or immediately over the seat of pain

For the purpose of relieving pain Warm poultices may be applied to the chest. They should be covered over with oil silk. Turpentine Stupes may also be employed with good results Dry Cups applied over the seat of pain will often give relief. When there is marked cardiac excitement. the Tincture of Veratrum Veride. or the Tincture of Aconite Root. may be given to sedate the hearts action. and to diminish the afflux of blood to the lungs. Either of these preparations may be given in the dose of one or two drops. If there be dyspnea or great embarrassment of breathing. due to an accumulation of blood in the right side of the heart. blood letting will do good by relieving the venous congestion. In this condition the blood is taken from the patient with a view of giving relief mechanically.

In the second stage of Acute pneumonia
The process of resolution may be hastened
by the use of the Iodide of Potassa. given
in the dose from five to ten grains.
For the same purpose the Compound
Tincture of Iodine may be applied
externally. In this stage, Strict attention
should be given to Alimentation. The
most nutritious diet should be given
in fluid form. such as Milk.
broths. and beef-tea. If there be a
soft. feeble. pulse. indicative of a tendency
to prostration. alcoholic. stimulants
should be given in doses. such
as necessities require. The Carbonate
of Ammonia is a good supporting
remedy in this stage of the disease
As a tonic the Compound. Tincture of

Cinchona. or small doses of the sulphate of Quinine may be given And finally the observance of good hygienic rules should be insisted upon during convalescence —

Yours with great respect

John B. Butler

Finksburg

Carroll Co.

Md

An Essay on Diphtheria.

Respectfully submitted to the Dean of the Medical Department of the University of Maryland as a Thesis for graduation February 1877, by L. C. Gordon.

Diphtheria.

In compliance with a rule of the University of Maryland, requiring a candidate for graduation to write a Thesis upon some medical subject, I have chosen the one which heads this page; and, although, from a want of practical experience I shall have to rely upon the opinions of others, I hope that I may be able to show some theoretical knowledge of the disease upon which I propose to write, and that my humble efforts will meet with the kind consideration of our worthy Dean and the gentlemen composing the Faculty.

Of all the constitutional diseases, exclusive of the essential fevers, one of the most important is Diphtheria. It has prevailed in various parts of the World, as an epidemic, from remote antiquity, and has from

time to time has been described by different writers under various
names, such as, Ulcus Egyptiacum vel Syriacum, Cynanche Maligna, Angina Maligna, Angina Gangrenosa, Morbus Suffocans vel Strangulatorius, Exotic, Malignant Sore Throat, Epidemic Croup &c. It was described by Bard in 1789 under the name of Angina Suffocativa, and the distinctive features of the disease were pointed out by Bretonneau from 1821-26, who called it Diphtherite, the significance of which name relates to the formation of the false membrane.

Diphtheria is a blood disease characterized by local inflammatory manifestations. The inflammation occurs on mucous surfaces and is attended by fibrinous exudation and the formation of a false membrane. Diphtheria occurs in two forms, primary

and secondary, the former is the more common, the latter is usually a concomitant of Scarlatina and Rubeola; the two forms are identical in nature, and symptoms; but the secondary is generally a graver affection and is more likely to prove fatal.

Anatomical Characters. The characteristic feature is the false membrane. The fauces usually are first affected, and sometimes the affection extends no further. The first appearance is redness of the fauces with swelling of one or both tonsils. The pseudo membrane is at first thin and transparent, but soon becomes thick and opaque; it is at first white, but may become dark, either from decomposition, from the medicines given and from various other causes. It may extend over the posterior part of the pharynx, the palatine arches

the uvula and forwards over a greater part of the soft palate; in fact, no mucous surface is exempt from a liability to be attacked, for it not unfrequently extends to the posterior nares and larynx, occasionally to the bronchial tubes, oesophagus and stomach, and more rarely to the conjunctiva, anus, vagina and Eustachian tubes, and may even attack the skin itself when it has been excoriated. When it extends beyond the fauces it is not to be considered as spreading by continuity, but as a distinct local manifestation of a constitutional affection. The lymphatic glands of the neck, especially those behind the angle of the jaw, are liable to swell during the course of the disease, thus giving rise to Cervical Adenitis; but they rarely suppurate. The false membrane, if left, or prolonged, is thrown off

by a process of ulceration in from three to twenty days; it is not unfrequently followed by a second, third or even a fourth one. Pathological Histologists have lately made a distinction between the false membrane of Diphtheria and that of True Croup, the former they claim consists of cellular elements, and not of fibrin and lymph. These cellular elements they regard as modified epithelial cells, and that after the separation of the false membrane there is left an ulcerated surface: while in True Croup the false membrane consists, in part at least, of fibrin and lymph, and after its separation there is found to be no loss of substance. After death from Diphtheria the blood is found to be dark colored, due in part to want of oxygenation in those in whom the disease extended to the larynx, and in part to the malignant

character of the disease. The heart clots are soft. There are no morbid conditions of any internal organs found after death, due to the disease itself.

Clinical History. The disease may be ushered in by a chill followed by a severe fever, but its most usual mode of onset is by a general feeling of malaise for some days, the condition of the throat being only discovered when examined. The formation of the membrane in the fauces is rarely attended by pain, in fact, there may be diminished sensibility or an entire loss of it in that situation. Deglutition may be painful but is not generally so. It may during this stage have a paresis of the muscles of deglutition, giving rise to difficulty in swallowing, and on attempting to swallow liquids they may be regurgitated through

the nose. If the membrane extends over a greater part of the mouth it will give rise to pain in swallowing, stiffness of the jaws and ptyalism. The breath is often fetid as if gangrene had taken place in the throat or lungs, but the latter affection does not often ensue. If the disease extends to the anterior nares it is accompanied by a discharge which occasions irritation and excoriation of the upper lip corresponding to the nostril affected. If it extends to the larynx we have many of the symptoms of True Croup, viz; Cough, dyspnoea and aphonia Embarrasment of respiration out of proportion to the affection of the larynx, points to its extension to the bronchial tubes. I will now take up the symptoms referable to the different systems, as follows; the circulatory, respiratory, cutaneous

digestive and nervous. The pulse may be either greatly or little accelerated, it may even fall below the normal standard; it is soft denoting diminished heart power; it may be irregular denoting gravity, when the irregularity does not depend upon an organic disease of the heart. Hemorrhage may take place from the nose, throat or mouth, and when profuse is an unfavorable sign. The symptoms due to the respiratory system occur when the disease extends to the larynx or bronchial tubes, and if life is prolonged the false membrane is thrown off by expectoration. The skin does not present much increase of heat and the thermometer shows the temperature of the body to be not much if any above the normal standard. There may be petechiae; the skin may

be livid when the disease has extended to the air passages. The desire for food is generally lost and there may be vomiting. Diarrhoea sometimes occurs. The false membrane may be vomited if the disease has extended to the oesophagus or stomach. Albuminuria may occur, usually in small quantity; it is generally in proportion to the gravity of the local symptoms. Haematuria may occur. General dropsy is rare. An increased amount of Urea may be found in the urine showing an increased waste of tissue. Delirium is rare, but it may occur, either passive or active, when the latter it denotes gravity. Convulsions are rare as also is coma, and if the latter occurs it is due to uraemia and usually denotes a fatal termination. The usual duration of the disease is from one to two weeks, although death

may occur in forty eight hours; or it may be prolonged to an indefinite period, owing to complications with other diseases. The most prominent sequelae are anaemia, feebleness of the heart's action and functional paralysis of both voluntary and involuntary muscles. The paralysis generally attacks first the velum palati giving rise to difficulty in deglutition; it generally occurs in from one to four weeks after convalescence has set in, although it may occur during the career of the disease. It may affect the tongue and muscles of the face giving rise to difficulty in speaking. When it extends further it generally attacks the lower extremities first, then the upper, or we may have hemiplegia or paraplegia, or one upper and the opposite lower extremity may be affected

It may be either complete or partial and may be attended with either loss of or exalted sensibility. The external rectus muscle of the eye is sometimes paralyzed giving rise to converging Strabismus, or Amaurosis may occur, attributable most probably to Uraemia. The paralysis may affect the intercostal muscles and the diaphragm, giving rise to dyspnoea; or the sphincters, causing retention of or inability to hold either the feces or urine. The paralysis whatever part it attacks is purely functional and no cause has been found for its production. It usually disappears as the patient regains his strength and in general has entirely disappeared in a few weeks or months.

Pathological Characters. Diphtheria is a constitutional

disease and the local manifestations depend upon the constitutional disturbance. It is held by some to be identical with Pseudo-membranous Laryngitis, but besides the difference in the composition of the false membrane, pointed out by Rindfleisch and others, there are other points of dissimilarity, among which are that the inflammation in True Croup commences in the larynx and does not extend to the nares and oesophagus; in Diphtheria it begins in the pharynx: in the former the affection is spasmodic; in the latter the onset is more gradual and generally occurs as an epidemic. The enlargement of the cervical glands is greater in Diphtheria. Albuminuria is not frequent in Croup and Paralysis is not a sequel.

Croup generally occurs in children, Diphtheria is liable to occur at any age and may prove fatal without extending to the larynx. Diphtheria has also been confounded with Scarlatina, the points of difference are that in Scarlatina there is the characteristic eruption, the inflammation is not liable to extend to the larynx, and a person usually has the disease but once, while in Diphtheria there is no characteristic eruption, the disease may extend to the larynx and a person may have it several times. The characteristic sequels of Scarlatina are dropsy and Albuminuria, which rarely follow Diphtheria; the most common sequel of Diphtheria is paralysis, which rarely follows Scarlatina. Some authors believe that Septicaemia may be caused by the resorbtion of the exudations in Diphtheria, if so, the best plan would be to effect the

separation of the false membrane as soon as possible; but others assert that it is more rational to attribute the constitutional symptoms to the morbid conditions which constitute the disease.

Causation. Diphtheria almost always occurs as an epidemic, although sporadic cases have been known to occur; and, like other epidemic diseases is believed to be due to a special virus. There is a difference of opinion as to whether or not it is infectious, but most authors believe it to be contagious. Circumstances relating to occupation, social position &c., seem to have nothing to do with its causation, although, in epidemics of the disease those who live in crowded, dumps and ill ventilated tenement-houses, are more liable to be attacked, than those who observe proper sa-

hygienic laws. The mild form of the disease may communicate a severe one and vice versa. The ages most liable to it are from 2-12 years, although it may be contracted at any age. Dr J. Lewis Smith says he has seen a case at three months, and Daviot reports one case in a person over fifty years of age. In Daviot's report females seem to be more liable to it than males. Different epidemics differ as regards the character of the disease; in some there is a great liability of its extension to the lungs and in others it rarely extends beyond the fauces. The period of incubation is from two to seven days. There was no epidemic of it in this country from 1771 to 1806, since which time it has been prevalent continually in some part of the country.

Diagnosis. Different cases differ somewhat in regard to the

premonitory symptoms. But the diagnosis is scarcely possible before the false membrane has been formed. In some cases only slight of any constitutional symptoms are observed; in others there is great derangement of the system. A case is to be diagnosticated by the prevalence of the disease as an epidemic; and by the formation of the false membrane, and it can scarcely be confounded with True Croup if we bear in mind the points of difference already designated. Many practitioners confound cases of Pharyngitis with Diphtheria and to hear them talk, one would be led to believe as they do themselves, that Diphtheria was a very common disease, on the contrary, it is not a common disease. The disease is only to be called Diphtheria when the false membrane has been formed. Ordinary sore throat

exists to a great extent in epidemics of Diphtheria, and is not to be confounded with it. The differential diagnosis between Diphtheria and Scarlatina has already been pointed out.

Prognosis. Different epidemics differ widely in the rate of morbidity. The difference in the statistics is due, in part to the mildness or severity of the epidemic, and, in part, to the habit some physicians have of including in their reports cases of Follicular Pharyngitis. The greatest danger is from an invasion of the Larynx, when that occurs the prognosis is very unfavorable. When the Larynx is attacked death generally results from Anoxia. The next great danger is from exhaustion of the vital powers; the disease has been known to destroy life within forty eight hours, but generally there is a gradual

decline of the vital powers and death finally occurs. When the larynx is unaffected, the prognosis is unfavorable when the disease extends to the anterior or posterior nares or when it spreads widely in any direction. Other unfavorable symptoms are, epistaxis or hemorrhage from any part, vomiting, diarrhoea, coldness of the skin, irregularity of the heart's action, abundance of albumen in urine, delirium, convulsions and coma. Dr. Meigs reports three cases of death from the formation of a thrombus in the right cavities of the heart, death taking place upon the patients attempting to get out of bed. The paralysis which usually follows Diphtheria is not generally serious unless it interferes with the muscles of deglutition and respiration.

Treatment. We now come to what may be considered, after the diagnosis, the most important thing to be

dwelt upon, the treatment and, if possible the cure of the disease. The treatment may be divided into general and local. I will first take up the local treatment when the disease does not extend to the larynx. It was formerly the habit to apply caustics, such as the Nitrate of Silver, the Sulphate of Copper and the mineral acids, but such treatment has been generally discarded and in its place gargles, antiseptic and emollient preparations have been substituted, such as weak solutions of Nitrate of Silver and Chlorate of Potash. Ice may be taken into the mouth if agreeable to the patient, if there is fetor we may use weak solutions of Chloride of Sodium, the Iodide of Bromine, Carbolic or Salicylic Acids or Creosote. The Sulphites have been recommended in this as in other zymotic

diseases from their supposed power of preventing catalysis, by Prof. Polli of Milan. He states that the Sulphurous acid set free in the system by their decomposition will prevent it. It is well known that they prevent fermentation outside the system, but whether, as Prof. Polli claims, they are of benefit in Diphtheria or other zymotic diseases, is still a disputed question and, although, their use would do no harm, we have other remedies, which until the question of their usefulness has been settled, I think it would be just as well to use.

Flint recommends a a gargle a half a drachm of the hyposulphite of Soda dissolved in half a pint of water. When the patient is too young to gargle, the mixture may be applied to the parts by means of a camel's hair brush. When the disease includes the larynx the local

treatment is the same, but, we must in addition endeavor to separate the false membrane, the best means of doing which is by the inhalation of vapor or steam; sponging the throat with lime water, or slacking lime in the patient's room has also been recommended.

I will now consider the general or constitutional treatment. There is no specific remedy for the disease. Diphtheria being a constitutional disease, and the danger depending to a great extent on death from exhaustion, the great indication for treatment, it seems to me, is to support the system by tonics, stimulants and nutritious food. The Sulphate of Quinia, Tincture of Iron and Chlorate of Potash are extensively used, the two latter may be given in combination. Alcohol

is useful when the pulse becomes weak and symptoms of exhaustion show themselves, and in some cases is tolerated to a great extent. The Permanganate of Potassa has been recommended, a drachm of the salt to a pint of water, a teaspoonful to be given every three hours. Alimentation is one of the most important parts of the treatment. The diet should be concentrated and nourishing. Milk is as good as anything you can give, beef tea, soups and other things may also be given. Ventilation is another thing that should be attended to in this disease. The patient should be placed if possible in a room with an open fire place, if not, the room should be thoroughly ventilated every day without allowing the patient to be exposed to draughts. Incidental symptoms are to be treated as they arise. Vomiting

may be checked by alkaline remedies, diarrhoea by opiates or astringents, sleeplessness by either opium or the bromides. If all the measures we may employ do no good and the patient continues to grow worse, there is only one question to decide, shall or shall we not perform tracheotomy. It is one of the most fatal operations in surgery. Bouchut states that of 340 operated on 310 died; still it does sometimes save life, and I think when we have done all we can with medicine and have found that our efforts have been unavailing, and that the patient is sure to die unless we interfere, that it would be doing wrong not to perform the operation no matter how slight the chance

of recovery and even if it promised but to prolong life for a little while; provided, of course, one have previously obtained the consent of the patient himself, or if a child of its friends.

Some recommend operating as soon as the false membrane has formed, others, and the majority, I believe, not until signs of want of oxygenation of the blood have set in.

With regard to the prevention of Diphtheria, if a case occurs in a family, isolate it, and during an epidemic, remove persons, especially children, beyond its influence.

L. C. Gordon.

A.

Thesis

On Pneumonia

Submitted to the Examination

Of The

Provost Regents and Faculty

Of Physic of The

University of Maryland

For the degree

Of

Doctor of Medicine

By

C. D. Laws

Of

Virginia

A. D. 1877

Pneumonia

Is an inflammation seated in the pulmonary substance or parenchyma of the lungs

The membrane lining the air cells & bronchiales is distinguished from the membrane which lines the bronchial tubes by its tenuity by absence of mucous follicles & by a change of epithelium from the cylindrical & ciliated to the squamous variety

In acute pneumonia the membrane lining the air cells & bronchiales is inflamed

Varieties; according to seat as

Single; double; lobular, according to causation as idiopathic from cold or wet; Traumatic from injury, Cancers or Tubercules in Phthisis or Typhoid

Anatomical characters.

1st Stage is a Stage of engorgement; the inflamed lung is heavier than in its normal condition, The surfaces when cut presents a dark appearance & blood flows in abundance; In the majority of cases this Stage is from twenty four to forty eight hours in duration

2nd Stage or that of exudation

a coagulating material escapes from the blood-vessels & coagulates within the air cells; the cells cease to contain air The lung is then said to be hepatized; it contains but little blood & presents an anemic aspect, on section the cut surfaces present a granular appearance, The lung is more friable than in its normal condition, it is increased in weight & This increase of weight is due to an amount of solid matter withdrawn from the blood Owing to absence of air portions of the lung sink in

thrown into water; This stage usually continues from two to four days & if the case terminate favorably the exuded matter is removed by absorption & after its removal the air-cells are found to have sustained no damage, But if the progress of the disease be unfavorable the exuded matter is not absorbed & the affected lobe or lobes become infiltrated with [illegible] The lung is gray in appearance & the substance is softened breaking down on slight pressure

3rd Stage. Gray hepatization softening, The third stage consists in degeneration (in absence of more favorable resolution by absorption) of the exudation This occurs by granulation softening & suppuration accasionally an abscess forms In gray hepatization the lung is solid; impermiable to air, with a granite like appearance on section, it sinks in water & is more easily crushed into a pulp than in the second Stage Symptoms; The attack is apt to occur at night

It is usually ushered in with a well marked rigor which may last for half an hour or even for several hours, This rigor is important both in a diagnostic & a prognostic point of view In no other affections excepting intermittent fever & Septicemia do we encounter chills of equal violence & in the latter disorders the paroxisms are repeated while the rigor which ushers in pneumonia is almost the only one throughout the course of the disease It is from this chill that we calculate in com=

timing the duration of the disease coincident with or speedily following the chill is pain, it very much resembles the pain of pleuritis; very frequently this symptom is wanting, but when present it is acute lancinating & usually referred to a circumscribed space near the nipple of the affected side Cough is usually present & frequently accompanied by expectoration The expectorated matter at first is scanty, transparent & viscid but it soon assumes characters which are highly distinctive

of the disease; that is; it becomes
semi transparent adhesive & has
a reddish tint, it resembles iron
rust hence called rusty expector-
ation it is composed of mucous
lymph & blood; It is sometimes
semi-transparent without the
reddish tint & in some cases it is
entirely wanting, The pulse
varies in frequency in different
cases ranging from 80 to 120
pulsations per minute, is more
or less full & hard, There is fever
together with pain in the head,
thirst; heat of skin prostra-
tion & loss of appetite

The thermometer denotes an increase of temperture ranging from 100° to 106°F. The respirations are increased in frequency. The height of the attack is usually reached between the fifth & seventh day after which the temperture declines & in favorable cases all the symptoms subside. Where case terminates fatally there is increased prostration oppression in breathing cough deepens & expectoration becomes more abundant & purulent

Physical Signs: these differ in the

three stages; 1st stage They are
moderate dullness on percussion
over the affected lung & on aus=
cultation after the first day
or two the fine crepitant rāle
2nd stage marked dullness
on percussion no rāle but
instead bronchial respiration
& bronchophony with increased
vocal fremitus 3rd stage of
Softening. = resolution or infiltra=
tion, dullness on percussion &
coarse crepitant or mucous
rāle When resolution follows
the second stage the bronchial
respiration gives way to veter=

ning fine crepitation & the dullness
on percussion gradually disappear
Pathalogical Characters acu=
te pneumonia, is an inflam=
mation of a mucous mem=
brane characterized by an
exudation of lymph which
does not lead to the produc=
tion of true new tissue & adhe=
sions & is not exfoliated nor ejec=
torated differing in this
respect from the exudation on
other mucous surfaces but
which is absorbed
Causation Pneumonia occurs
more frequently among

than females, & usually between
the ages of 20 & 40 years
In this country the disease pre-
vails in the fall & winter more
more frequently than at any
other time, cold applied to
the chest is the most common
cause In a large proportion
of cases the disease is develo-
ped spontaneously not trace-
able to any causative agency
may be produced traumat-
ically or by inhaling irri-
tating gases
Seat. The disease usually attacks
the lower lobe of the right lung

The disease rarely attacks two lobes simultaneously but it not unfrequently invades in succession a second & third lobe

The inflammation does not extend from one lobe to another but whenever a new lobe is affected it is the seat of a new invasion

The disease is said to be double when a single lobe on both sides is affected or when the whole lung on one side & a single lobe on the other side

Diagnosis, The only affections with which this disease is likely to be confounded are Pleuritis

Bronchitis & Pulmonis

1st stage The diagnostic symptoms are dullness on percussion & the crepitant rale. This latter symptom if persistant & well marked is almost pathognomonic of the disease, its distinctive characters are its fineness, dryness & limitation to inspiration, this symptom is not uniformly present The rusty sputa is also a diagnostic Sign of some importance

2nd Stage Bronchial respiration & bronchophony, There are

the signs denoting solidification
dullness on percussion is well
marked The stage of resolu=
tion is known by the bronchi=
al respiration giving place to
the broncho-vesicular murmur
& the latter progressively ap-pro-
aches more & more to the
normal vesicular murmur
If the disease pass into the stage
of suppuration the dullness or
flatness continues, & the moist
bronchial rales due to pus
in the air cells are prominent
the signs of solidification
continue but are less marked

Prognosis The prognosis of uncomplicated pneumonia is favorable; But the prognosis depends to a certain degree upon the previous condition of the patient & upon the extent of lung tissue involved When developed in the course of other diseases it may prove fatal; it may terminate fatally in aged & feeble persons without being complicated

The complications which render it fatal are Pericarditis Intermittent fever & pulmonic Phthisis, Death usually

place by asthenia or apnoea
Frequency & feebleness of the
pulse; hurried & laborious
respiration; an abundant
& purulent or muco purulent
expectoration with active dele=
rium & prostration are unfa
vorable symptoms
Treatment, The treatment varies
for the different stages
1st Stage The objects of treat=
ment are to diminish the inflam=
mation, palliate the symp=
toms & to place the system
in a condition to tolerate
the disease

If there be much fever & the patient plethoric use local blood-letting. I have seen this tried in the wards of the University hospital, several times & the patients derived a great deal of comfort from it, If the skin be hot & dry give nitrous powders. For the pain use some preparation of Opium Dovers powder is the one usually resorted to in this infirmary, Opium is undoubtedly the most important remedy used in the treatment of this disease, Sinapisms & warm

fomentations applied to the chest are useful or turpentine stupes 2nd stage The objects are to promote resolution to relieve the symptoms & to support the powers of the system The 1st of these objects is to be accomplished by the use of Tincture of Iodine exter=nally to the affected side Or warm fomentations may be sub=stituted, If the pain continue give opium, To support the powers of life. if a tendency to death by asthenia give tonic remedies; alcoholic stimula=

nts & a nutritious diet. Of the Tonic remedies Quinia is the one prefered at this hospi=tal; Alcoholic stimulants are indicated to an extent commensurate with the dan=ger from failure of the vital powers, The patient should have a nutritious diet as milk, animal broths & farinaceous substan=ces should form the diet during convalescence if the pat=ient be anemic give Iron; Cod. Liver Oil &c &c

"Thesis," by

G. P. Sigler W. Va.

January 1st 1877.

"Hygine, a practical, and most important Element in Education."

"The great importance of making "Physiological Anatomy, and Hygine" an element in education, cannot fail to make itself obvious to the mind of every thinking, and intelligent individual. Yet it seems to have done so, and it is almost incredible that a subject of such vital importance, could up to the present day of enlightenment, have been so carelessly [illegible]. The cause of this is probably not the least obvious; the want of sufficient stress having been urged upon the subject, has given

place to a spirit of indifference characterizing the American people of all classes as regards the preservation of their own health and their rendered vastly more difficult to [illegible] by an ambition to aspire to notoriety, and to mingle in, so called, fashionable society, which latter, as it exists today, is almost entirely inconsistent with the laws of health. The study of the [illegible] body, with its various functions and the sacred laws which [illegible] them, is well endowed with great importance as [illegible] mortality less frightful, and life more tolerable only, but it is one of the most

interesting and elevating in character. Nothing can more effectually [illegible] upon the mind, the [illegible] itable wisdom of our great Creator than that wisdom and sublime architecture, which is displayed in the building up of that most godlike and wonderful edifice the "human body." Neither is this a subject requiring great and prolonged study, in order to acquire a thorough knowledge of it, nor is it one the practice of which with proper precautions, is incompatible with any of the trades, or vocations of life, or demanding the sacrifice of the [illegible] of the [illegible]

that advice, or persuasion strives to induce them to abandon long formed and injurious habits of fashion or taste, and give proper attention to the preservation of their health, until death or the dread of death stares them in the face; and then it seems very unjust indeed, to them, that it should require any care, or sacrifice on their part in order to sustain the [illegible] of all the various and complicated functions of that most perfect organism which the divine Maker has given them to take care of.

And especially does this state of affairs exist in our large towns

and cities where the rules of fashion supersede, and monopolize all others to so great an extent. Why this is all true I [illegible] attempt to discuss, but it [illegible] not [illegible] it is [illegible] [illegible] to put into practical use the laws of health, nor, as I [illegible] above, can I conceive that [illegible]

— the least interference with any of the comforts of life. [illegible] far from this is it, that to those who duly appreciate their value, the observance of them becomes a source of much happiness, and such a course propperly carried out, I doubt not would suffice to

[illegible]

A method of training judiciously enforced during childhood and youth, seldom or never fails to be recognized through the habits of the individual in after life, and such it is very reasonably to believe would be the result of good hygienic training; but the [illegible] up to the present, has [illegible] heeded, and the consequence is [illegible] frightful length [illegible] "tables of mortality" [illegible] short of discovering the actual [illegible] ber. and it has been pr[illegible] statistics, [illegible]

or [illegible] half of the entire [illegible]
tality occurs in children five years
of age and under, yet after am-
ple allowance for [illegible] hereditary
[illegible] and imperfections in [illegible]
developmental process, the cause
of [illegible] the whole of this mortality may
be traced back to the want of proper
hygienic management. Too frequent-
ly indeed, do w[illegible]
der to satisfy their [illegible]
the [illegible]
[illegible] aristocratic life, suffer their
tender offspring to be subjected to
the very prejudicial [illegible]
hand nursing, or with [illegible]
quality from an unhealthy [illegible] in-

[illegible]
[illegible]
[illegible]
systems [illegible] to health, by
encouraging an [illegible] development of the former [illegible]
[illegible]. And so we see anxious parents
hurry their hopeful sons and
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] one [illegible]
[illegible]
[illegible]
[illegible]

precocious faculties, and pe
vivacity, on the one hand;
and a morbid sensibilit

will require a [illegible], and [illegible]
[illegible]. The [illegible],
[illegible], a [illegible] certainly [illegible]
[illegible], [illegible] should be [illegible].
Schools would become destitute of
deteriorating influences, and [illegible]
[illegible] and [illegible] teachers,
the multitude would [illegible] [illegible]
led to the [illegible] [illegible]
[illegible] [illegible],
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [

[illegible]
would be reduced to [illegible].
The people would know how to eat, what to eat, and where to eat, as well as how to economize by properly preparing their food; points of great importance but the ignorance of which, may be said to be almost universal.
The average number of years conceded man, in consequence of his own vices, to live would also be increased beyond anticipation.

A

Thesis

On

Cirrhosis of The Liver

Submitted, to the Examination

of The

Provost, Regents and Faculty

of Physic of The

University of Maryland

For the degree

of

Doctor of Medicine

By

R. H. Hargrove

North Carolina

A. D. 1877

Cirrhosis of the Liver.

Etiology. Cirrhosis of the liver commonly known as hobnail liver, is a chronic interstitial hepatitis, which affects the fibrous covering of the Liver, and scanty connective tissue which as a continuation of Glisson's capsule, accompanies the hepatic vessels, and traverses the parenchyma of the liver.

The inflammatory process consist in a proliferation of the above named tissues into new connective tissue; While the new connective tissue increases, the parenchyma becomes more and more displaced; In the later stages of the disease, this new formed

tissue undergoes a cicatricial contraction, which produces sufficient pressure to partly strangulate and partly destroy the parenchyma of the liver.

As the disease advances, the hepatic blood vessels and bile ducts, become obstructed and the liver cells atrophy.

Alcohol is the most frequent cause of chronic hepatitis. Corresponding to the extent, which alcohol is used by both sexes, chronic hepatitis occur more frequent in men than women.

Majority of cases occur after thirty years of age. It is very rare in Children. Other causes of Chronic Hepatitis are very obscure.

of the right lobe is increased.
In this stage, the organ is covered with granular and watery projections. The serous tissue between the granules is whitish, tendinous, and retracted. If the retractions separate large portions of the liver, it appears lobular. The substance of the liver is hard and of leathery toughness. On cutting into the liver, we find the same granulations, as on the surface. At some places, the parenchyma has completely disappeared. The still existing liver cells have partly undergone degeneration, and partly intensely yellow, as a result of retained bile. The fatty degeneration

of the liver cells, and this retained bile, give the entire liver a yellow color, to which it gives name. Cirrhosis. Symptoms and Course.

During the first stage, the inflammatory process going on within the liver and its tendency running is usually attended with little pain; but sometimes the patient in the hepatic region increases to intense and burning pain. Patients generally complain of anorexia, and feeling of fullness and, uneasiness after eating. They complain of flatulence, and constipation. Their nutrition becomes impaired; and they have a

cachetic appearance. These conditions may occur in various other diseases. In the second stage, the symptoms depend almost entirely upon mechanical conditions. Compression of the branches of the portal vein must cause congestion of other organs, from which it conducts the blood to the liver; compression of the bile ducts will cause absorption of bile, icterus &c.

Symptoms of congestion occur generally soonest in the gastric and intestinal mucous membranes. The intestinal inflammation rarely leads to excessive transudation of fluid into the intestines, but to

a copious production of cells and a secretion of tough mucus. Owing to the obstruction of the portal circulation, the capillaries of the stomach and intestines become so much distended, as to rupture. Hence Cirrhosis of the liver, like ulcer of the stomach, may cause gastric and intestinal hemorrhages.

The impeded portal circulation by overfilling of the inferior mesenteric artery and haemorrhoidal plexus, causes the formation of haemorrhoids, which are of frequent occurrence in Cirrhosis of the liver.

The splenic veins empties into the portal vein, and compression

of its branches causes enlarge-
ment of the Spleen; but observa-
tions have shown, that that is not
the only cause of enlargement of
the Spleen. Probably it may be due
to a process similar to that effecting
the liver.

When enlargement of the Spleen
is due to portal obstruction, it always
diminishes in size after haemateme-
sis from rupture of the capillaries
of the stomach.

As all of the peritoneal veins, and
especially those of the visceral folds,
empty into the portal vein, we
may easily understand, how
ascites can occur. The acci-

occurs entirely by a mechanical cause, the circulation in the veins by becoming congested, produces sufficient pressure in the veins to cause a transudation of the serum of the blood through their walls into the abdominal cavity.

Ascites which arises in consequence of cirrhosis is usually very extensive and it is this form of ascites that the blue veins of the abdomen are distinctly shown.

The drops which appear just in the abdomen, as all other cases do that depend upon abdominal trouble, gradually descends into the genital organs and lower Ex

hemities.
In some very rare cases haemorrhoids, enlarged spleen, and ascites are wanting. These conditions have been explained by saying that collateral circulation has been developed. This process I will not undertake to explain.
There is rarely very much biliary obstruction or intense icterus in cirrhosis of the liver, although the bile ducts are subjected to the same pressure as the portal vein.
The duty color of patients, high colored urine and slight icterus have been explained by the physiology of the bile. The blood

going to the liver contains no bile, but it is obtained from the material supplied by the blood. Hence obstruction and reabsorption of bile show that part of the liver-cells are there and act normally. Biliary concretions induce cirrhosis, which usually leads to obstruction and absorption of bile, and destruction of liver cells leads to formation of a limited quantity of bile. We can now see why icterus is hardly ever absent and rarely attains a high degree. Usually a high grade of icterus is an indication that concretion of the bile ducts is in excess, a slight degree of icterus

is an indication that destruction of the liver cells prevails. If the flow of bile be entirely prevented, the few remaining liver cells, will be sufficient to produce intense icterus. The gray-colored stools depend usually upon biliary compression and sometimes upon destruction of liver cells.

The urine in cirrhosis of the liver contains bile pigment, and is remarkable for its richness in urates and peculiar coloring matter. No one has yet shown what causes these conditions of the urine.

In some rare cases just before death the patient falls into delirium

and finally coma and death. Post mortem examinations have shown no reliable changes to account for these brain symptoms; hence they are attributed to intoxications. Some say they depend upon cholaemic intoxications, others say they depend not so much upon cholaemia as they do upon retention.

Physical Signs - Inspection only shows a visible enlargement of the superficial veins.

Percussion - In the first stage, the normal hepatic flatness is increased; in the second stage it is diminished. The percussion flatness instead of extending to the ribs, or border

of the ribs, gives place to lymphatic resonance, an inch or two above their margins.

Palpation - By pressing with the fingers inwards and upwards, small nodules can be felt on the surface of the liver. Sometimes they can not be felt until paracentesis has been performed.

Diagnosis - Cirrhosis may be distinguished from certain habits of the patient, such as intemperance. It is often difficult to make a diagnosis between cirrhosis and cancer of the liver, or tuberculosis of the peritoneum.

In cancer of the liver, the patient

becomes very much emaciated and cachetic; the tumor may become so large as to compress the ductus choledochus and cause intense icterus.

Cirrhosis may be suspected 1st when there is enlargment of the spleen 2nd when there are quantities of coloring matter and urates in the urine, 3d when the patient has been given to drinking spirituous liquors.

Cancer may be suspected 1st when it has been recognized in other organs, 2nd when the patient has a dirty yellow appearance, known as the 'cancerous' hue.

When the abdomen is very sensitive

to surfaces, and there is rapid loss of strength, rapid development of ascites, occurrence of fibrin in the abdominal fluid, which coagulates very slowly etc, degeneration of the peritoneum may be suspected.

Prognosis—. As regards to a cure is always unfavorable in the second stage. The disease may be arrested in the first stage. In the second stage patients usually live not more than three or four years. (A great many die in three or four months.)

Treatment—. If the disease can be recognized in the first stage, we may hope to avert it, by prohibiting

the use of any kind of spirituous liquors. If the patient complains of much fulness in the hepatic region the administration of saline laxatives and application of leeches around the anus may prove very beneficial. If the nutrition of the patient has suffered much, tonics such as the preparations of iron may be given.

When the disease has reached the second stage, we can no longer hope to arrest the disease, as the neoplastic tissue has undergone cicatricial contraction and destruction of liver cells, therefore we can only treat the symptoms

and complications.
The most important indications for treatment in cirrhosis of the liver, is to improve the nutrition and strength of the patient. So long as the digestive organs will permit, the patient should have nutritious food, tonics etc.
The gastric and intestinal inflammations demand particular attention, as they increase the emaciation and debility of the patient.
The alkaline carbonates may be the most beneficial, as they tend to decrease the toughness of the mucus, and in this way enable

the mucous membrane to get rid of its mucus coat more readily. The gastric and intestinal hemorrhages may be arrested by the application of leeches around the anus to remove the congestion, cold applications over the epigastric region, and administration of astringents, such as dilute sulphuric acid, alumn etc.

For the removal of the dropsical accumulation, drastic cathartics and purgatives should be employed. Professor W. T. Howard recommend the following prescription.

℞

Extract Hyoscyamus gr vj
Pulv. Cahsicum gr x ij
Pulv Elaterium gr ij

℞ Pills no xij. Sig take one pill every four hours and gradually diminish the dose according to its exhausting effects. The Hyoscyamus is used to allay the griping action of the Elaterium, Cahsicum employed to prevent nausea and Elaterium used for its cathartic action. I have seen this prescription given very beneficial in two cases of Ascites, that were in the hospital during Professor W. T. Howard's term. One of the cases depended upon cirhosis of the liver, and

the other upon acute Bright's disease,
If these remedies fail to remove the
dropsical fluid and it is imperative-
ly necessary that the fluid should be
withdrawn, we must tap the patient,
as the last resort.

An
Inaugural Essay
on
Diphtheria

Respectfully submitted to
the examination of
The Provost, Regents and
Faculty of Physic
of the
University of Maryland,
For the Degree of Doctor
of Medicine

By
Jas. Thos. Sledge
of Warrenton N. C.

February
1877.

Diphtheria.

Synonyms.— Pseudo-membranous Angina; Putrid Sore Throat; Angina Diphtheritica; Diphtheritis.

This disease is an inflammation of the mucous membrane of the throat and fauces characterized by the formation of a false-membrane. The name diphtheria (from Διφθερα, a skin or membrane) was given to it about forty years ago by M. Bretonneau of Tours.

Although diphtheria may sometimes occur sporadically, it is eminently an epidem-

ic disease; up to the year 1858 it was not seen in New York for fifty years, but since that time, or at least within the last ten years it has not missed a single season. It rarely ever attacks persons in first-rate health, living under good hygienic influences, but rather those in whom there is a low vitality of the tissues. It attacks persons of all ages, but children most frequently. The true cause of diphtheria is unknown, much confusion and difference of opinion exists in regard to it. It seems

to be due to the presence of some cryptogamic vegetable poison in the atmosphere, which alights upon the pharynx during the act of inspiration, there the low organism continues to be propagated, and is absorbed into the blood, which it poisons, giving rise to the low grade of inflammation, resulting in the exudation of the plastic material which forms the false membrane. But some contend that since bacteria which seem to be identical with those found in diphtheritic

inflammations are frequently found on the gums between the teeth in health, without producing any irritation, that there exists a something which so alters the tissues and the bloods, that they become a riding in which the bacteria are early and quickly developed, so that from being few & innocuous in the system, they occur in myriads. The diphtheritic poison sometimes enters the system through the lungs. It is well known that this poison (whatever it may be) preferably

attacks such surfaces as are deprived of their epithelial or epidermic covering. It may attack the oesophagus, Stomach, vagina, conjunctiva, and even the lining of the external ear.

The symptoms are at first mild, resembling those of an ordinary sore throat. There is a feeling of general malaise, chilliness with rigors lasting sometimes for hours, loss of appetite headache, tongue coated with a moist fur, the bowels are regular, the tonsils and fauces

are red and swollen, there is a feeling of tenderness in the throat, but this soon passes off. The submaxillary glands and the cervical glands become swollen & tender, soon the false membrane begins to form, it first appears somewhere on the tonsils, soft palate or pharynx, at first whitish or grayish, thin, particularly at its edges, occuring in patches, it soon thickens and often becomes darker, presenting the yellowish tinge and granular appearance of

chamois leather, is more or less adherent to the mucous membranes and if removed will bleed. The nares may become plugged and an ichorous flow come from them. The breath becomes fetid. Sometimes the symptoms at first are so slight that the patient will go about his usual employments, and it not unfrequently happens that the true nature of the case is discovered too late to prevent a fatal termination. Then again the reverse takes place, there may be great febrile exate-

ment, pain in the ear head-
ache, aching of the limbs and
loss of strength, so that the
patient is compelled to take
his bed from the first. De-
lirium may occur, but is
unusual. Cases of severe
commencement have been
known to terminate favora-
bly in less than a week,
while on the other hand those
of a mild commencement
generally end fatally or take
weeks to effect a recovery. The
pulse varies in different
cases, it is often full and strong
in the first days of the disease

but in the latter part. when
the blood has become poi-
soned it is slow and weak,
In the course of a few days
snuffling respiration, cough
may be present or not, but
when it does occur, very much
resembles that of croup. The
inspiration is prolonged and
whistling, dyspnoea is extreme,
The countenance is anxious
and pallid and the little patient
in vain seeks for relief by a
change of position. Sometimes
there is an efflorescence on the
surface when the fever is high,
does not differ from ordinary

erythema so common in fe-
bile affections of infancy
and childhood, and soon
disappears, in many patients
it is absent, generally occuring
in the first stages when the
circulation is active. The
temperature in most cases
is less than it is in Scarlet-
fever, and in the advanced
stages may become less than
normal. Albumen in the
urine, often occurs at an
early period, but sometimes
not before the close of the first
week or the beginning of the
second, this is one of the evidences

& the systemic poisoning, the
general cachectic condition of
the patient is another, Diph-
theria is infectious, but is rare-
ly transmitted, it is well known
that the sputum of diphtheritic
patients or bits of the pseudo-
membrane may communicate
it, for doctors have been known
to contract it from having the
material coughed into their
faces while cauterizing the
throats of their patients, or
voluntarily drawing it into
their mouths while rescuing
a tracheotomized patient from
asphyxia, by sucking out thro'.

the wound, the accumulations threatening suffocation,
Sequelae: Paralysis generally of the muscles of the pharynx though it may be general, is one of the most prominent sequels of this disease, then there may be defective vision. The patient is in a state of Spanaemia, presents a pale and cachectic appearance, which is very noticable—
Prognosis is rather unfavorable when there is intense pharyngitis, great cervical cellulitis and adenitis, extensive pseudo membrane, with the phenomena

of croup, the croupy cough, voice and respiration, Great acceleration of the pulse continuing after the first week, a pallid countenance, with softness or flabbiness of the tissues, the occurrence of hemorrhage from the fauces or other parts, are prognostic of an unfavorable ending. But if the inflammation, mucous and glandular, remain of a mild grade, if the strength is not greatly impaired and the constitution is good, and there are no laryngeal symptoms, a good result is highly

probable. The paralysis may continue for several weeks or months before recovery. Probably the larger proportion of deaths occurring from this malady have been due to suffocation in consequence of the obstruction in the air passages caused by the false membrane. The severity of the disease as a general thing lasts from five to fifteen days. Patients under three years seldom recover. If the secretions are stopped the patient will die in twenty-four hours. Dyspnoea and irregular pulse

are unfavorable signs, Patient is in danger as long as the glands remain swollen.
Diagnosis. This disease is sometimes difficult to distinguish from croup, here the presence of albumen in the urine will aid in the diagnosis as this is rare in croup, also diphtheria is epidemic, while croup is sporadic, May be complicated with measles, thrush, Scarlet fever and sometimes from its low type may at first be mistaken for typoid fever, Diphtheria may be distinguished

from scarlatina by the absence in the first of vomiting and efflorescence, and in the latter of the fibrinous exudation on the fauces, unless diphtheria occurs as a complication with it, as it very frequently does. From typhoid fever by the absence of tenderness in right iliac fossa, the rose-spots &c. & from measles by the eruption

Treatment. The treatment should be both general and local. Sustain the strength of the patient by good food, tonics, Stimulants &c. all

depletory measures must be avoided. If constipation exists give a mild laxative as Husband's or Henry's Magnesia. Chlorate of Potassium gr v or vj every 2 or three hours has a good effect. Quinine & Iron are indispensible. Carbolic Acid. Sulphur. Permanganate of Potassium is also good as a gargle - gr ij to Aqua ℥j If exudation blocks up the air passages an emetic should be given if the patient can stand it. Alum Pulv ℥j or Ipecac gr X. For local application may use Nitrate of

silver R/ Argenti Nitrat gr. X-XX
Aquae ℥j.
or in more severe cases use
stick-form to be applied light-
ly and quickly. from 3 to 6
times a day. with an as-
tringent gargle
R/ Potas- Chlorat. ℥ij
Acid Pyrolig- ℥ij-iv
Aquae Oss M
Sig- Use as a gargle- or
R/ Sodae Hyposulph ℥iij
Glycerine ℥ij
Aquae ℥vj- Gargle,
or Acidi Carbolic gr V
Glycerine, ℥ij
Liq. Ferri Subsul. ℥ij M
Sig Apply with a brush-

The following is the treatment employed in the Catholic Foundling Asylum of New York: As soon as the patient comes under observation the following mixture is applied every second or third hour over the fauces by one or two applications with a large camel hair pencil:

℞ Acid carbolic gtt vj to x.
Liq. ferri subsulph. ʒiij.
Glycerinae ʒj. M.

If there is discharge from the nostrils indicating diphtheritic inflammation of the Schneiderian mem-

brand a little of the same
mixture diluted with an
equal amt of warm water
is injected into each nos-
tril every three to six hours,
by means of a small glass
ear or nostril syringe, with
a knob or button at the
end of the nozzle. One-third
to one-half of a teaspoonful
of the diluted fluid is a
sufficient quantity to em-
ploy for each nostril.
Quinine, in doses of one
to two grains, according
to the age and severity of the
case, is administered about

every fourth hour, and each hour in the interval, half a teaspoonful to one teaspoonful of the following:

℞ Potas. Chlorat., ℥j-ij
Tr. Ferri Chloridi, ℥j
Sy. simplic., ℥ii-iv

No drinks are allowed for a few minutes after its administration as well as after the use of the brush, so as not to wash it away quickly from the fauces. In three or four days, if the case progresses favorably, these remedies are employed less frequently, but are not discontinued until

not only the pseudo-membrane has disappeared, but the inflammation has in great part abated. For not infrequently the fibrinous exudation reappears after it has been totally removed, if the pharyngitis remain, Hence the necessity of daily examining the fauces until convalescence is well advanced. When the inflammation has begun to abate, and there is no reappearance of the exudation a gargle or drink of Chlorate of potash and water usually suffices

for topical treatment.
Such is the treatment, substantially, which has proved so successful in the Foundling Asylum. & of which J. Lewis Smith in his last edition on the diseases of children, says: "From my observations of its effects, not only within this institution, but in my private practice, I can confidentially recommend it."
J. Solis Cohen M. D. & the Jefferson College of Philadelphia recommends Sulphur as the very best remedy

for topical application. he says that the curative powers of Hyposulphite of soda are due to the sulphur it contains. and as far as his observation goes it is in favor of sulphur. in the form of Sulphurous acid water projected into the mouth & pharynx by means of a steam apparatus every two or three hours. for about ten minutes at a time.
It is important that the patient should have good nourishing food in a concentrated form. egg-nog, beef-tea &c.

Dissertation

On Cholera Infantum

By R. H. P. Ellis.

Respectfully sub-
=mitted to the Faculty of Physic
of the University of Maryland
School of Medicine for
the degree of
Doctor of Medicine.

Baltimore
Feby 1877

Thesis

To the

Faculty of Physics, of the University of Maryland, School of Medicine

Gentlemen:

A

Cheerful compliance with the required task of preparing a thesis, which you have so wisely imposed upon all candidates for professional honors, I beg respectfully to submit the following, which I trust may be found pertinent to the subject selected, namely:

Cholera Infantum.

This disease popularly known as the summer complaint of children, is a perilous disorder of infancy, occurring most frequently during the first year, or second, summer of infantile life, and may be best defined, by an enumeration of its most characteristic symptoms, such as: copious purging of thin serous fluid, or large watery and fetid evacuations, succeeded by more or less obstinate vomiting, cool dampness of a part, the whole surface of the body, lividity of the tongue and lips, intense thirst, feeble rapid pulse, pinched countenance, more or less complete collapse which may prove fatal, or be followed, by reaction, and a subsequent simple or inflammatory diarrhoea.

It is almost exclusively a disease of the summer months appearing with the first heats of summer and ceasing upon the recurrence of the cool weather of autumn. It is

most prevalent in large cities, especially in those sections most densely populated, and among children who are poorly cared for, kept in houses cellared & badly ventilated.
Cholera infantum proper is not so common as simple and inflammatory diarrhoea, most cases of which, have, according to respectable authority, been till a comparatively recent date, improperly grouped under the common name of Summer Complaint.
It is said to be of rare occurrence in Europe, and is considered unworthy of special notice by many medical writers of that country, who have, according to Dr. Meigs, ranked those cases which have occurred, among the cases of gastro-enteric irritation, or inflammation, to which infancy is so commonly subject.
Its frequency and fatality in this Country makes it an object of great interest, and is both by the profession and people at large considered eminently worthy of special notice.
An attack of Cholera infantum proper is often preceded by diarrhoea, but the vomiting and purging may occur simultaneously.
In fatal cases of short duration the vomiting may continue to the end but when it terminates favorably, or is protracted, the vomiting usually ceases leaving the diarrhoea.
In very violent and rapid cases, the vomiting and purging are incessant, the stomach rejecting everything [illegible] water.
The intervals are marked by great languor and distress with more or less spasmodic pain of the stomach and [illegible] and if relief is not afforded prostration [illegible] with cold and clammy skin, pale face eyes [illegible]

announcing finally to Coma, and death may close the scene in three or four days or even in twenty four hours. More frequently, however the case is protracted to two or three weeks, attended with febrile symptoms. In such cases the pulse is frequent and weak and the surface of the body irregularly heated.

The fever is of the remittent type, the exacerbations occurring in the evening.

During the progress of the disease, the child emaciates rapidly, the features sink and the cadaverous physiognomy is an index to the suffering it has endured. In more advanced cases the mouth is parched and aphthous and the Circulation feeble. The child is often very restless uttering moans and plaintive cries. Finally coma sets in and the scene is frequently closed by convulsions.

Throughout the attack the stools are usually frequent consisting almost entirely of a thin serous fluid. The most important characters of the stools in true Cholera infantum are their fluidity and quantity. "These two characters" say Drs Meigs & Pepper "more than the vomiting or the nature of the discharges in any other respect are the special signs of the disease, and by the degree in which they are found do we recognize the disease and usually determine its severity. The stools vary in character from an almost colorless and inodorous fluid, to that of a yellowish or greenish fluid, containing a considerable amount of

then [illegible] matter of a most offensive [illegible] and often numbering from eight to twenty in twenty [illegible]. The matter vomited usually consists at first of the ordinary contents of the stomach, food and water but soon may consist of water or the medicines taken. The appetite is lost or very capricious but thirst is usually extreme and constitutes one of the most notable phenomena of the disease. The pulse often rises to 130, 140 or 150 per minute but the temperature does not increase in proportion.

The copious and frequent discharges per rectum and orem, if unchecked, soon precipitate the child into a state of utter prostration, from which condition reaction may be impossible, the child dying calmly, or with slight convulsions.

In favourable cases the diarrhoea ceases to be so violent after two or three days; the stools are less frequent and thicker in consistence; vomiting ceases and food is retained, and the child, though the subject of a simple diarrhoea for a few days, gradually regains its health and strength.

Often however, the disease is not entirely subdued and [illegible] ...ired, till the occurrence of cool weather.

...e of Cholera infantum, are evidently of the same nature ... are the same, as those of inflammatory diarrhoea. ... in the phenomena developed being due probably to ...erence in the age of the subjects exposed to their and the power of resistance offered, or [illegible] different periods of infancy or childhood.

The two most important and fruitful causes are probably, improper alimentation and the unusual heat of summer. Improper alimentation may consist in an unhealthy condition of the nurse's milk, or more commonly in the administration of some improper artificial food, of which, the kind most injurious is that which is composed in a large proportion of farinaceous substances which are allowed so constantly to enter largely into Children's diet. Weaning the Child from the use of its mother's milk (which cannot be done with impunity between the months of May and September) to that of artificial food, or the improper administration of the latter; the use by accident, or otherwise of acid milk, unwholesome vegetables, fruits berries &c, will often bring on the disease in a few hours, or convert a mild diarrhoea into true Cholera infantum.

These results are particularly liable to [illegible] imprudencies or accidents, in large Cities, where during summer, the hygienic Conditions are most favorable to the production of the various intestinal disorders in their most severe forms.

Trousseau, on account of a system of diet disorganizing to the digestive powers, recommends that Children be Confined almost exclusively to the breast, until after the first dentition is Completed.

Observation has taught that Children fed [illegible] on artificial diet from birth, are especially [illegible] to be attacked, and indeed rarely escape

some form of intestinal [illegible], either simple diarrhoea, Cholera infantum or entero-colitis, or what is not uncommon the three may be more or less blended with each other, by Cholera infantum assuming the form of a more or less Chronic entero-colitis, or vice versa.

Excessive feeding, is also a prolific Cause of intestinal disorders, hence the quantity, as well as the quality of the food should be carefully observed.

The stomach, during the early months of life is intended and fitted, only for the reception and digestion of the thin natural milk of the mother, hence the use of food prepared in too thick, or rich a manner, such as preparations of rice of too solid a nature, or of oat meal gruel, in which there is little or no milk, is always attended with more or less disastrous results to the health of the Child.

Heat stands preeminent as a most powerful auxiliary cause, and when this cause, or these Causes whatever they may be, act with moderation, the resulting disorder that occurs will most likely be that of a simple or inflammatory diarrhoea. But, on the contrary when the Causes act with a greater degree of severity the case will most probably assume the type of a true Cholera disorder.

Thus, as Drs. Meigs & Pepper, when writing of the potency of a high atmospheric temperature as a most influential Cause, say, "So long as the atmospheric temperature is moderate, the resulting, the resulting disorder will [illegible]

take the form of simple or inflammatory diarrhoea. But let the temperature rise to 85° or 95° Then [illegible] higher as happens occasionally during [illegible] and continue so for three or four days and the children previously well will be seized with the true Choleraic forms of diarrhoea, whilst those who are already suffering with simple or inflammatory are prone to have these milder diseases assume suddenly the Choleraic type".

While it is not believed, that heat is capable of [illegible] Cholera infantum per se, yet that it is highly influential as a cause, is evidenced by the fact of its almost exclusive occurrence during the warm weather of summer, and that its frequency and fatality bear a corresponding ratio to the degree and continuation of a high temperature during any given summer.

A union of atmospheric heat, with atmospheric citiation seems to favor its most extensive and fatal occurrence, very greatly augmenting both its development and fatality.

Dentition, although a physiological process, is always considered a powerful predisposing cause. Its effects seem almost always sufficient to produce some degree of intestinal disorder and when brought in conjunction with certain other auxiliary causes, such as a high atmospheric temperature, improper food &c, the true Choleraic disorder is often developed. The general effect of all preexisting causes is much intensified by the occurrence of dentition.

Cholera infantum occurs most often and is most fatal among children of weak debilitated constitution. More children die from it during dentition than at any other time, and when it occurs after this has been completed, it is far less fatal than before. Cholera infantum in the child is the analogue of epidemic cholera in the adult, and it is believed that the same causes that produce the former in the child will give rise to the latter in the adult when it is epidemic.

Morbid Anatomy.

The anatomical lesions of Cholera infantum seem to be by many writers, considered and described as being analogous to, or identical with those of inflammatory diarrhoea. But if we regard cholera infantum as a disease per se, distinct from entero colitis — which it certainly appears to us proper to do then, with this restriction, it is obvious that the appearances post mortem can not be the same. (The post mortem appearances might be the same, and yet it does not necessarily follow that the diseases are identical. Death caused by the use of poisonous doses of [illegible] arsenic, nitric acid, or of drastic purgatives especially [illegible] oil, may seem to illustrate this fact.)

It frequently happens that the true cholera [illegible] its appearance during an attack of inflammatory diarrhoea, and speedily proves fatal. Now in such cases it would not be correct to attribute the pathological [illegible]

present entirely to Cholera infantum because the inflammatory diarrhoea necessarily had something, if not all to do with the changes unwilling. Again as not unfrequently happens, the attack may present the true Cholera symptoms, and be true Cholera infantum but after one, two or three days, these symptoms may be side, by passing into a more or less chronic entero colitis of which latter affection the child may die. Evidently in such cases, although the attack was that of true Cholera infantum, the morbid changes could not be properly assigned to this disease, for the child was the subject of inflammatory diarrhoea for some days, perhaps weeks before death, and the lesions would of course be those of a more or less chronic inflammatory diarrhoea &c. viz. — more or less discoloration of the living mucus membrane of, with thickening and [illegible] of the walls of the large intestine, and [illegible] ceration of the mucus follicles.

The inflammation may extend into the small intestine, the lower end of the ileum being the portion usually [illegible]. I cannot conceive how such a condition as Chronic Cholera infantum can exist, since it is so well known to be essentially of an acute character the symptoms [illegible] rapidly. Hence the true and proper lesions of Cholera infantum would appear to be those observed after death in those cases where the true Cholera disorder has appeared in the midst of [illegible] and proved fatal in the acute stage, that is [illegible]

it has been the form of inflammatory disease. In such cases the degree of inflammation is very marked, the only essential anatomical Change being enlargement of the mucous follicles and to some of the of Peyer's glands, with possibly, very slight marks of inflammation of the lining mucous membrane of the intestine. The liver is usually congested and enlarged, condition hepatic engorgement.

The nature of Cholera infantum seems to be that of a gastro-enteric Catarrh, which is shown by its causes being those of Catarrhs generally, viz: improper alimentation, Epidemic influence, and sudden variations of temperature; also by the analogy of the symptoms.

Concerning the cause of the state of Collapse many theoretical attempts have been made to explain the modus operandi, of various Causes in its production. The excessive drain of serous fluid from the alimentary canal, evidently has much to do with the [illegible] of the disease and the rapid exhaustion of strength, but this is not now regarded as the direct cause of Collapse, because the latter sometimes occurs when the discharge is but scanty.

Collapse is most probably due, indirectly to the morbid condition of the great sympathetic and vaso-motor nerves. With the understanding, that the trisplanchnic, or great sympathetic nerve, controlls, to a very great degree, arterial action, by regulating their calibre inducing contraction, or allowing relaxation of their muscular coats.

[illegible] of the alimentary Canal.

In this way we can account for the [illegible] cold skin and [illegible].

It is also found, that the [illegible] indicative [illegible] are [illegible] from [illegible] allowing [illegible] of the [illegible] and [illegible], increase secretion and [illegible] of [illegible] and this is evidently the [illegible] appearances, show evidences of [illegible] which always produces hypersecretion and [illegible] flux from mucous membrane.

Cholera infantum presents no difficulty of [illegible] to any one acquainted with its ordinary symptoms and modes of progression. The most marked symptom which, if recognized, will plainly indicate the [illegible] present, are; frequent and profuse fluid stools often mixed at first, with lumps of undigested food, curdled milk, &c; sour and [illegible] vomiting; rapid emaciation of strength; and pale with little or no fever; [illegible], or actual suppression of [illegible], indicated by [illegible] urine; [illegible] respiration and [illegible] but rapid pulse, and diminished [illegible] secretion. An intelligent recognition of this

symptoms with a [illegible] of the [illegible] in which and conditions under which it [illegible] occurs, will make the diagnosis [illegible] and confirmed to the intelligent physician.

Cholera infantum is well known to be a dangerous and fatal malady, under unfavorable circumstances, and its immense fatality in the City of Rochester as elsewhere, especially during the past summer was startling. Collapse, which either threatens, [illegible] occurs to some extent, in almost all who are attacked with the true Cholerric disorder, [illegible] formidable and dangerous condition.

The occurrence of Collapse depends [illegible] upon the surrounding hygienic conditions of the child, its age and state of dentition, the [illegible] of conditions, vigor possessed, together with the wisdom displayed by the physician in medication.

The most unfavorable conditions are, early age, recent weaning, hand nursing with improper [illegible] and a feeble constitution.

Children who live in the country, or in most healthy parts of cities under good hygienic conditions, and who were in good health previous to the attack are the most likely to recover from, or escape entirely the dangerous condition of Collapse.

But when the stools are very frequent and fluid or scanty and green, mixed with blood and attended with

tenesmus; when the abdomen is tympanitic the extremities cold, and the countenance pinched, or if convulsions occur, the prognosis is necessarily very unfavorable.

When the symptoms point to a favorable issue, there is cessation of vomiting; the stools become less frequent, and finally return to their normal consistence; sleep becomes quiet, and appetite return, and perfect health and strength may be regained.

Nowhere in medicine is, the well-known axiom which says, "An ounce of prevention is worth a pound of cure," more applicable, than in the consideration of Cholera infantum, and its treatment. This being remembered, with the well known fact of its great prevalence in our cities during the hot months of summer, should induce parents if possible to remove their young, and especially teething children, to the country during the hot months. This with proper care and attention to alimentation, constitutes the best prophylaxis. But unfortunately, the great majority of children, whose circumstances and conditions in life are such as that subject them most to the ravages of the disease, are unable to do otherwise, than remain in the cities during the entire warm weather. When this is the case, they should be taken into the open, out-door air, as much as possible, and their apartments kept strictly clean and well ventilated, with

careful attention to their food and clothing.
It is best for the child to be left at the [illegible] till after its second summer has passed, the [illegible] the disease being much less after this period.
But if weaning must take place, it should be done before hot weather sets in, in order to escape the dangers of a change from the use of its mother's milk to that of artificial food during warm weather.
The food for those children who are compelled to be raised by hand nursing should be carefully prepared and should consist, during the first year of pure milk properly diluted with water, and containing small amounts of farinaceous substances, such as, [illegible] oat-meal, arrow-root, or rice. They may be [illegible] being occasionally allowed to such small [illegible] beef, chicken or fat meat. Small amounts of light soups and meats, finely minced, may be allowed, after the first year, but the diet should consist chiefly of milk until after the first dentition is completed, and if at anytime during this process the gums offer great [illegible], and become loose and swollen, it may be necessary to incise them. Clothes should always be light and comfortable. By properly observing these hygienic points of diet, dress, and open-air exercise, much may [illegible] ward preventing the disease.
[illegible] to the medical treatment the physician must [illegible], decide for himself as to what drugs may be [illegible] the best effect, according to the stage of the

disease, and condition of the patient when seen.
If the child is sitting all and with profuse watery diarrhoea (which may contain at first [illegible] curdled milk, lumps of undigested food &c) with griping pain in abdomen, and especially if attended with vomiting, the child may be considered in the first stage of Cholera infantum. Now if it could be ascertained that this condition had been brought about by some indigestible food taken, then it would seem most rational, to remove this source of irritation by the use of a mild Cathartic, say grs 1–11 of Calomel followed by a little rhubarb, or what is probably better, one drachm spiced Syrup rhubarb or a half drachm of Castor oil, with one, two or three drops of laudanum according to the effect desired &c may be given.
If acid is shown to be present in excess by a sour smell and green color of the stools, carbonate of magnesia should be added to the rhubarb.
In a short time, say an hour or two after the administration of the cathartic, if the stools are still frequent and thin, Chalk mixture with tincture of Krameria, with laudanum or paregoric would probably be a suitable and efficacious combination as follows: one teaspoonful crude mixture with ten or fifteen drops of Krameria, and one or two of laudanum in one dose every two hours.
The chalk mixture may be given very often in teaspoonful [illegible] every loose evacuation, but when the case is seen the addition of the Krameria as above, will increase its efficacy.

The subcarbonate of bismuth is also [illegible] and may be given in powder, alone or with [illegible] or suspended in gum. It is also [illegible] given with chalk and opium in powder [illegible] of one or two grains. If these means do not arrest the discharges [illegible] may be given [illegible]. Acetate of lead is highly recommended for the [illegible] of controlling diarrhoea being both astringent and sedative and the following would be a good [illegible] for its use in this affection.

M. et S. Teaspoonful [illegible] two hours at a year old.	℞. Plumbi Acetatis gr. ii Acid. Acet. [illegible] ii Aquae Dist. [illegible]

This should, however, be preceded an hour or two by a full dose of opium.

As soon as the stools cease to occur, only at [illegible] intervals, the lead should be given less frequently and when the discharges cease to be exceedingly serous, it should be discontinued, and something more simple given instead in order to avoid its toxic effects which might occur.

Under these circumstances and conditions a very good [illegible] would be a decoction of logwood or [illegible] in doses of one or two [illegible] of the latter, a decoction in milk is recommended.

For the same purpose bismuth and chalk [illegible] with paregoric may be given.

When the diarrhoea has a dysenteric tendency and particularly, if the stomach has been or is [illegible]

so as not to have retained very well the medicine given a combination of [illegible] Sulphuric acid, tinctura opium and syrup Krameria is highly spoken of as follows:

M. et S. Teaspoonfed every two hours.	℞. Acid Sulph. Arom. Gutt. vi–xii
	Tr. Opii Gutt vi–xii
	Tr. Krameria ℥ii
	Aquae Fluvial ad ℥iv.

Calomel has been much used in the early stages but is now discarded by some, still it would [illegible] to be very properly indicated when there is [illegible] of retention of bile, and in a few [illegible] where I have had the opportunity as a student of [illegible] its use, it seemed to do good by inducing the flow of bile.

Generally, by the intelligent use of these medicines sedatives, absorbents and astringents as they are variously indicated and required during the different phases of the disease, with at the same time strict attention to the alimentation and general hygienic conditions of the child will office to check the disorder and place the child in a favorable condition to recover.

If, as sometimes happens, vomiting is extremely obstinate so that the stomach cannot [illegible] such medicines as we wish to give [illegible] the special object of arresting diarrhoea and promoting surface action, recourse may be

[illegible] to [illegible] in order to allay the [illegible] of the stomach.
Sinapisms of mustard and meal, in the proportion of about two parts meal to one of mustard may be applied to the epigastrium, or [illegible] mint steeped in brandy, or cataplasms of [illegible] or powdered black pepper may be used.
At the same time very small draughts of lime water and milk in equal parts, say in teaspoonfull doses, may be given or weak mint julep ice cold, or what is usually very grateful a small piece of ice may be sucked.
Vomiting may often be very successfully controlled by doses of two or three drops of aromatic sulphuric acid with four or five drops of solution of morphae, in ice water every hour.
For the same purpose the following is a highly recommended combination;

Mt. S. Teaspoonful every hour or two at six months old.	℞. Liq. Morphae Sulph.	ʒß	
	Acid. Sulph. Dil.	♏ xv.	
	Curacoa Cordial	℥ii	
	Aqua —	ad ℥ii	

Sometimes notwithstanding the most judicious treatment the child is precipitated into a state of collapse.
When this is the case the treatment must of course be changed to suit the conditions. During this condition the stools are usually frequent and smaller in quantity and all the vital functions are more or less warning. Here the object of the physician is to aid the efforts of nature to bring about reaction. For this purpose [illegible]

drop doses of the best brandy [illegible] hour or two in ice water.

Ice water should be constantly given, even though it be often ejected for if there should be but a very small amount retained it may do good by aiding in correcting the thickened condition of the blood, [illegible] by the excipient escape of the liquor sanguinis.

Water may also be used by enemas, when the [illegible] is checked. During collapse, opium should be used, if at all, only at first, and in the smallest doses.

The following prescription would probably be an appropriate and efficacious stimulant to promote reaction.

℞. Liq. Acid. Halleri Gutt. XXX
Ols. Anisi – cajuput. Juniperis āā gutt. XXX
Ether ℥ii
Tinctura Cinnamomi ℥j.

(Of this two drops may be given in a teaspoonful of ice water every fifteen minutes.

But little food can be taken during collapse, small amounts of wine whey, or thin chicken tea is probably all need be given. If the extremities become cold artificial heat should be applied abundantly and without hesitation.

If reaction be brought about, there need subsequently be but little done, except to keep the [illegible] in a favorable hygienic [illegible] as possible.

Food and water should be supplied but with care, the food being cautiously increased as the stomach becomes more retentive and

Baltimore
Feby 15th

digestion improves. The food, [illegible] consist only of such articles as beef tea, or chicken tea. Small quantities of milk, lime-water and water in equal parts, may be given — it is better to boil the milk before using.

Finally, as the child's health becomes very much improved, it may be allowed such articles of food as it was formerly accustomed to, and its health and strength will probably be fully restored. Generally during reaction but little medicine is required. Should fever become high, small doses of Spirits Nitrous Ether would probably be useful, in two or three drop doses every hour or two in water. If the urinary secretions remain deficient, [illegible] of the acetate of potash may be given with the above [illegible] Nitrous Ether, with as much water as the patient [illegible].

Reaction having been pretty well established, the child may convalesce rapidly till perfect health be regained, or as is often the case, it may become the subject of a simple or inflammatory diarrhoea. When this is the case, the child is [illegible] in an extreme weak and dangerous condition and should be treated by such remedies as are best adapted to the [illegible] of these diseases, namely, astringent and tonics.

If the child be in the city removal to the country would be the most appropriate measure that could be taken to secure a speedy recovery.

Very respectfully

Your obedient servant, — R. H. P. Ellis,

" " "

In all penetrating shot wounds of the abdomen the peritoneum must be to some extent involved. The viscera, in some rare cases, may escape, though it is inconceivable that a bullet could pass through the loops of intestine without inflicting some severe damage, at least by contusion, if not by actual laceration. If, however, we can satisfy ourselves that the injury to the peritoneum is an entirely uncomplicated lesion, the experience of the last few years has I think shown that the resulting inflammation can be comparatively easily controlled.

It is probable that traumatic peritonitis differs from what is known the idiopathic form

mainly in a less liability to become diffused. While fully recognising the danger of spreading inflamation from mechanical violence to the peritoneum, it is to be remembered that a limitation of the inflammation by salutary adhesions more commonly occurs. Effusions are the most constant cause of general traumatic peritonitis, yet this does not seem to be a necessary result of effusions of blood and pus, and instances are on record where the more irritating extravasations of faeces, bile and urine has caused only a circumscribed peritonitis. The pathogeny of the inflamation is analogous to that of pleuritis and pericarditis (Niemeyer, Kind fleisch); there is

hyperaemia, a proliferation of the epithelial cells, and a migration of the white corpuscles in great numbers, leading to the formation of young connective tissue and giving the membrane a velvety appearance. The surface is then covered by a fibrinous exudation containing young cells and then follow sero-fibrinous exudations in great variety. The diffusion of the inflammation, unless in case of effusion of some irritating fluid, must take place before the stage of serous exudation as it is promoted mainly by the movements of the opposing surfaces on one another.

The inflammation usually begins with severe pain at the seat of

injury, and, if there be effusion, spreads rapidly over the whole abdomen. But if propagated from a wounded viscus its progress is slower, and the pain which was before limited to the seat of injury gradually increases and extends. There is in all cases general depression. Fever is always a prominent symptom and the temperature has generally been found to rise to 105° or more; but the commencement is not marked by a severe chill followed by febrile reaction as in peritonitis from idiopathic causes. Pain is the most constant and characteristic symptom, and it is increased by the slightest pressure. The patient fixes the

diaphragm to prevent pressure on the intestines and draws up the lower extremities to relax the abdominal walls. He carefully avoids all motion, loud talking and coughing. Tympanites is one of the early symptoms and it is often very great. Niemeyer says this is not easily explained but is probably due to expansion of the gases contained in the intestine and obstruction to their escape from paralysis of the muscular coat. Singultus and vomiting frequently attend this condition and give rise to great pain. Constipation and dysuria, frequent and weak pulse, and rapid alterations and contractions of the countenance and

The most prominent remaining symptoms. The mind is usually clear; but at the approach of death the patient sometimes becomes apathetic and delirious. The pulse then becomes more frequent and thready, the countenance greatly altered, and the whole surface of the skin is bathed in a cold clammy sweat. The disease may be fatal in a few hours; but the fatal termination usually takes place from the third to the fifth day. In those cases that recover convalescence is generally very slow, and visceral adhesions are apt to take place which may subsequently cause much pain, and even a liability to a relapse.

Wounds of the Stomach.

Dr. Otis, in "The Medical and Surgical History of the War of the Rebellion", remarks that apart from ocular demonstration or the introduction of the educated finger, extravocation of the contents of the stomach is the only pathognomonic sign of a rupture of its walls. The great variations in the position of the stomach in the abdominal cavity, and of its relations with surrounding parts in different stages of repletion or emptiness, render the certain diagnosis of wounds of this organ very difficult. The point of entrance, depth and direction of the wound when the state of the stomach is known; the escape of food or drink, vomiting

of blood, faintness and pain over the seat of injury are the principle signs. In addition there may be thirst, singultus, sudden micturition, small and frequent pulse with cold extremities, pallor and other symptoms common to rupture of other parts of the alimentary canal. The danger of extravasation depends of course on the size of the wound and the amount of food in the stomach at the time the injury is received. It is said not to have occured in some cases when the stomach was known to be partially filled, but this could happen only when the wound is small and the organ totally paralyzed for a sufficient length of time for

inflammatory adhesions to form.
In many cases these adhesions
take place with great rapidity,
a few hours being sufficient
to cause the opposed serous
surfaces to unite quite firmly.
Hematemesis coming on immediately
after the injury certainly presents
very strong evidence of such a
lesion; but it may be absent
when there is a solution of
continuity of the walls of the
stomach, or present when there
is only a contusion, or after a
wound of the intestine. The
hemorrage may be so great as to
cause syncope and even death.
The question of surgical interference
in case of rupture of the walls of the

stomach has been much discussed.
The conclusion arrived at by all the
best authorities seems to be that
when there is no doubt of the nature
and extravasation has taken place
it is proper to enlarge the opening
in the abdominal parietes, clean out
all foreign matters and stitch up
the wound. The method of doing
this does not differ from that
used in wounds of the small
intestine and will be spoken of below.
Fistulae may be a sequence of shot
wounds of the stomach, but there
only two well authenticated cases
of recovery with fistulae on record.
In the case of the famous Alexis
St. Martin, who was still living
in 1873, the wound open; in the

other case, which is recorded by Baron Percy in 1794, it gradually contracted and finally closed. The records of the late war furnish three cases of secondary gastric fistulae in all of which the patients died in from three to twelve weeks after the fistulae became complete, but they were all complicated by other serious injuries. Shot wounds of the stomach are generally complicated with injuries to the viscera with which it is in relation and this of course adds greatly to the mortality. In uncomplicated cases, however, the mortality is very great, perhaps next to wounds of the small intestine. Percy places it at 75 per cent., but Dr Otis after a rigid

analysis of all recorded cases estimates that it is nearer ninety-nine per cent. than seventy-five. In the uncomplicated case I have recorded above, I feel certain that the boy's recovery was entirely due to the fact that the stomach was empty at the time he was injured, and that he was not allowed to take any food until it was pretty certain the wounds had been closed by inflamatory exudation. The ball passed through at some distance from the pyloric extremity and no large vessels being wounded the hæmorrage was inconsiderable.

Wounds of the Small Intestine.

Wounds of this portion of the

alimentary canal are the most fatal of all wounds of the abdomen; not because the visceral lesion is in itself destructive, for these wounds may be closed with great rapidity, but because the conditions necessary to prevent the entrance of foreign matters into the peritoneum are so rarely fulfilled. Shot wounds of the small intestines are frequently multiple on account of the convolutions; there may be single or twin perforations or the calibre of the gut may be partly or wholly divided. When it is entirely divided the extremities are drawn apart and puckered and it is impossible to distinguish the upper from the lower end

except by the escape of faecal matter. Small perforations, not exceeding four lines in diameter may be closed by the contraction of the longitudinal and circular fibres and by the eversion of the mucous lining. With regard to the relative frequency of wounds of the three divisions of the intestine the ileum from its more exposed situation stands first and the jejunum next, while but few cases of wounds of the duodenum have ever been observed. Shot injuries of this latter portion of the intestine are most commonly associated with mortal lesions of the adjacent parts. The descending and middle portions being loosely fixed between the laminae of the meso-colon without

any proper peritoneal coat it is possible for it to be wounded with out extravasation of its contents into the great peritoneal cavity.

In wounds of the jejunum, if received in the condition its name implies, the danger of extravasation is not immediate; but even if received during fasting entozoa may intrude into the peritoneal cavity. Lesions of the large blood vessels of the mesentery and of the other large vessels of the abdomen are complications of not infrequent occurrence. The wounds of the ileum can in no way be distinguished from those of the jejunum except by actual examination of

the gut. Injury to the large blood vessels is the most frequent complication, and extravasation of faecal matters is more likely to take place in the lower part of the bowel. There are no symptoms pathognomonic of wounds of the small intestine. Sudden meteorism, from the escape of the intestinal gases is apt to be developed and the symptoms of shock are likely to be very pronounced; but many cases occur in which neither symptom is very prominent. Vomiting and bloody stools will very generally follow and peritonitis may be suddenly developed by the escape of acrid substances from the intestine.

Wounds of Large Intestine.

Shot wounds of this part of the intestinal canal are much less fatal than those of the stomach and small intestine. Wounds of the ascending and descending portions of the colon, from their position along the sides of the abdomen, less frequently implicate other organs. Being firmly bound to the abdominal parietes and but partially covered by the peritoneum this membrane is less likely to be injured, and fecal extravasation into its cavity less liable to occur. Wounds of the transverse colon, on the contrary, are nearly always complicated with injuries to other organs, always implicate the peritoneum

Gun shot Wounds of the Abdomen.

Claude Van Bibber

Case. I. On Sept. 17th 1875. Thomas Campbell a boy of about twelve years of age was accidently shot by his brother. The next day Dr. Chas. O'Donovan, the attending physician, being obliged to leave town, asked me to see him. I got the following history of the case; About seven o'clock in the morning the boy found an old pistol in the store and took it up stairs to his brother. Not knowing it was loaded this young man opened it with a cap, and being at about ten feet distance, fired the pistol at his brother, the ball striking him while he was in a stooping position. The ball which was over one third of an inch in diameter

entered the back on the left side just below the border of the last rib one and three quarter inches from the line of the spinous processes, and made its exit one half an inch to the right of the median line and two and a half inches below the tip of the xiphoid cartilage. A short time after the accident he vomited about four ounces of blood and during the morning vomited three or four times more, throwing up about a tablespoonful of blood each time. He passed his urine without pain and there was no appearance of blood. He was not allowed to take anything but small pieces of cracked ice on the 17th and 18th, and was ordered one drop Majendies Sol. Morph.

every hour. When I saw him on the evening of the 18th he was much depressed, with a hot & dry skin, and pulse 110 and very weak. There was great tenderness over both wounds. On the 19th he was given a teaspoonful of cream every hour. Was much worried during the day by hammering next door and in the evening his temperature was 102.8° and pulse 120. There was great tenderness over epigastric and umbilical regions, tympanites, tension of abdominal muscles and anxiety of countenance, in fact every symptom of peritonitis. Ordered two drops of Majendie's Sol. poroe nata and cloths wet with cold water to be laid over the stomach. Next day condition about the same. Pulse 128,

temperature not taken. Had some difficulty in passing urine on account of pain. Examination by the microscope showed a good many blood corpuscles and some disintegrated renal epithelium. During the next two days his condition remained about the same. He was kept fully under the influence of morphia, and allowed about a teacupful of cream a day. On the 23rd inst. all the symptoms were much improved, and he had a natural evacuation from the bowels. The wound in front had healed; - the one on the back was sloughing and two inches in diameter. It was washed out with a sol. of Carbolic acid. - 24th inst. His rations were increased to half a pint of cream a day, and an

The next day he was given beef tea. It made him vomit but did not give rise to any other bad symptoms. The blood had disappeared from his urine on the 25th inst. From this time he continued to improve. He was kept perfectly quiet and not allowed over a pint of cream during the twenty four hours for another week. A piece of cloth was removed from the wound in the back and it then healed rapidly. At the end of a month he had sufficiently recovered from his long starvation to resume his employment.

The diagnosis in the case was, a perforation of the walls of the stomach and contusion of the left kidney.

The above case was one of the first which came under my observation as a medical student, and by far the most interesting that it has been my fortune to watch throughout a critical course. It is for this reason that I have selected this class of lesions ~~as~~ a text, although the subject may seem to be one not altogether suitable for one who lacks the wisdom of observation and long experience. For I think that in writing a thesis for a medical examination the student should choose some subject with which he is practically familiar. He is more apt to take an especial interest in any disease that has been studied

with a view of making immediate use of his knowledge; and that knowledge is better retained after seeing theories reduced to practice.

I propose to speak of shot wounds of the abdominal cavity as uncomplicated by injuries to the cavities adjacent to it; viz. the thorax, the pelvis and the spinal canal. The abdomen thus is bounded above by the diaphragm; below by a plane passed through the ileo pectineal line, or superior strait of the pelvis; posteriorly by the lumbar vertebrae; anteriorly by muscles; and laterally by muscles and the inferior ribs. This will include nearly all the viscera covered in whole or in part by the peritoneum; viz the stomach, small and large

intestines, liver, spleen, pancreas,
and kidneys, and the large vessels.
This class of injuries are interest-
ing on account of the immediate
connection of all the parts involved
with the most important functions
of the economy; the intense form
of inflamation which almost
invariably follows them, and
the wide field that is open for
improvement in the treatment
of wounds of the several viscera.
John Bell in his "Discourses on
the nature and cure of wounds"
uses these words in speaking
of wounds of the belly; Every
wound is a disease, and every
disease is different according to
the nature of the part affected,

and according to the office which the parts are destined to fulfil. In the abdomen we find the principles which explain its diseases very simple and plain; we find the chief cause of danger to be the tendency of the peritoneum to inflame; we find every wound apt to excite this inflamation, and every inflamation, however slight, apt to spread, to extend itself over all the viscera, and terminate in gangrene and death. Upon these grounds we cannot but pronounce a wound of the belly to be a mortal wound."

The principles here laid down still guide us in the treatment of these wounds. The lesions of the several

viscera will produce symptoms peculiar to the disorders of their respective functions, and these must be treated according to the nature of the wounded part. There will arise many complications, for the abdomen contains more parts of very dissimilar uses than any other cavity of the body, but still the main danger to be guarded against is inflamation of the peritoneum. The result of observations of these wounds during the numerous wars of the last three quarters of a century has not added very greatly to our knowledge on this subject. But still the large experience acquired has given more precise ideas as to the relative frequency and death rate of these injuries, and

put us in possession of numerous clinical observations and post-mortem descriptions of the effects of lesions of the different viscera, which fail to teach us more fully the phenomena distinctive of such injuries because of our imperfect knowledge of the normal physiological functions of many of the organs involved. However, this mass of observations affords some clues for differential diagnosis, and hints as to what had better be left undone, if it does not teach us what to do. The experience of so many years leaves unchanged the facts that in shot wounds of the abdomen the prognosis is most unfavorable, the diagnosis very obscure, and the results of treatment discouraging.

and are very fatal. The wounds of the ascending and descending portions are very generally followed by temporary and sometimes by permanent stercoral fistulae. There is nothing by which wounds of the large intestine can be distinguished from lesions of other organs, except the position of the wound, and the escape of faecal matter externally. —

In shot wounds of the small intestine the common practice has been to seek to avert extravasation into the peritoneal cavity by arresting peristaltic action by opium, and enjoining absolute quiet, and to indulge in the hope that adhesions may form through

the efforts of nature. By previous
traction are such hopes are illusory.
Extravasation takes place in the
very large majority of instances,
hyperacute peritonitis ensues,
and generally proves fatal in
forty-eight hours. The pathological
evidence of re-union from wounds
of the small intestine by the unaided
effort of nature, even by the es-
=tablishment of a preternatural
anus, is limited to a very few
instances. The cases of successful
suture of the intestine, on the
other hand, are very few in number,
but still the success obtained. I
think warrants me in saying that
in wounds of this viscus, where
there is danger of extravasation

the proper course to be pursued is to enlarge the external wound and close that of the intestine by suture. Wounds of the large intestine will often do well without interference, yet there are exceptional cases in which extending the external wound and sewing up the wound in the colon is the best and only means of preventing extravasation. Prof. Gross, than whom no authority is greater, while heartily endorsing the propriety of exploratory incisions and of enterorraphy in cases of ordinary intestinal wounds without protrusion, regards such measures as unlikely to be of benefit

because such lesions are commonly multiple. This consideration is undoubtedly of great weight in prognosis; as to treatment, it may be urged that, in proportion as the danger of faecal extravasation is multiplied, the necessity of employing the only effective remedy becomes more imperious. It is a surgical axiom that no operation should be undertaken which will endanger the life of the patient; but in these desperate cases if we do not succeed in closing all the openings in the intestine the death of the patient is certain and we have done no harm. The results of operations for ovariotomy demonstrate that

the danger of opening the peritoneal cavity and of handling the viscera have been greatly exaggerated. Success in these operations will depend on attention to minute details, to the preventing the lowering of the temperature and above all to cleanliness. It is impossible to estimate what effect Prof. Lister's method of antiseptic treatment may have on these difficult operations, but it should certainly add greatly to our success if everything claimed for it be true.

The variety of methods which have been devised for the closing of a wound of the intestine indicate that it is a very unsuccessful operation. Those that have best stood the

that of expressing all have for their object the inversion of the edges of the wound and the close approximation of the tissues covering in such manner as to favor its quick union by inflamatory exudation, and to prevent the escape of anything from the wound. The method of Lambert, or Gely's modification of it, are probably the best sutures that can be used. Of late years the continued suture, which had long fallen into disuse, has become popular again and bids fair to be as successful as any other if applied with proper care and precautions.

Wounds of the Liver.

The records of the late civil war show that that wounds of the liver are not nearly so fatal as has been heretofore supposed. If the patient escape the early danger of hæmorrage, they are likely to die of traumatic peritonitis, from the escape of bile, or from abscess of the hepatic parenchyma. General inflamation of the substance of the liver is not likely to follow. The complications usually accompanying the wounds are fractures of the ribs and wounds of the stomach & large intestine.

Wounds of the Spleen.

This organ is less liable to be

wounded than the liver, because of its smaller size and deeper situation. Fatal hemorrage may take place from short wounds of this viscus but numerous pathological preparations show that it may be wounded without fearing much the danger of hemorrage or inflamation. Alterations of texture are limited to the immediate vicinity of the solution of continuity, and there is but little tendency to the formation of pus unless foreign matter are confined. Of the physiological effects of extensive lesions of this organ, and of the Pancreas, nothing is known. It is much to be regretted that in a case of extirpation of the

entire spleen for a shot injury recorded during the war, the patient was not kept under observation.

Wounds of the kidney.

Wounds of the kidney are indicated by the depth and direction of the wound, pain in the renal region, haematuria and spasmodic retraction of the testes. If the wound extend to the peritoneum urine may be extravasated into its cavity and cause fatal peritonitis. Urine may also be extravasated into the lumbar connective tissue, and it will then be proper to enlarge the opening in such manner as to prevent infiltration into surrounding parts. The possibility of formation of large coagula of

blood in the bladder should be remembered, and a large catheter and vesical injections should be used early if indicated.

The differential diagnosis of wounds of the abdomen is very unsatisfactory. The numerous examples of unsuspected lesions revealed after death show that there is no distinctive sign of wounded either of the abdominal viscera save the escape externally of its secretions or its contents. Post-mortem examinations show the uncertainty of haematemesis and bloody stools as signs of wounds of the alimentary canal, and indicate the importance of sudden peritonitis

as a sign of perforation of the bowels. As a general rule shock is more profound and persistent in wounds of the abdomen than in wounds of any other region; but the diagnostic value of this symptom is greatly diminished by the fact that it frequently follows slight contusions without serious organic lesion, and nothing can be determined by its intensity or long continuance. It is of the utmost importance to discriminate the collapse due to syncope from internal bleeding from true shock. Vomiting and retention of urine are common accompaniments of injuries of

the abdomen, but by themselves are of little significance. Persistent localized pain is very suggestive, but from visceral injuries are sometimes accompanied by comparatively little suffering.

The main resource in the treatment of all abdominal injuries is the free use of opium. Absolute rest and quiet are necessary to control hemorrhage as well as to prevent the spread of inflammation. Cold applications over the abdomen are most useful adjuvants. In wounds of the solid viscera, especially the kidney, the internal administration of haemostatic remedies are frequently indicated. When the intestines are

injured great care should be taken not to allow any food, or at least only the most easily digestable articles to be eaten. The administration of cathartics in these cases has been followed by disastrous consequences. Phlebotomy has deservedly abandoned in this as in most other forms of ~~inflammation~~, and although it should not be entirely condemned, an account of the very depressing effect of the general treatment, the cases in which it will be found useful are very few. When there is reason to believe that the intestines are divided and that faecal extravasation can only be averted by operative interference, it is proper to enlarge the wound, carefully cleanse the peritoneal cavity and unite the solutions of continuity in the wounded viscus by suture.

Thesis

On

Anatomy of the Heart

Submitted to the Examination

Of The

Provosts, Regents and Faculty

Of Physic, Of The

University of Maryland,

For the degree

Of

Doctor of Medicine,

By

J. R. Irwin

Of

Charlotte,

North Carolina.

1877-

Hypertrophy of the Heart.

This hollow, muscular organ, with its chambers and their valved outlets, its contractile walls and their strength and thickness, so admirably adjusted, that the healthy balance of the circulation is continually maintained under many varying outward influences and inward emotions, is inclosed in its pericardial sac and located in that conical frame-work called the Thorax. Though thus well protected from external injuries, it is nevertheless subject to many diseases. Its lining membrane may be the seat of inflammation, with its various effects; or its investing membrane may undergo morbid alterations; or the muscular substance that constitutes the organ itself may be gradually changed in its qualities, in its bulk, or in its proportions. Its office is no less es-

sential to life and health, than that of the brain or of the lungs, which with it constitute the the "tripod of life". Its action begins early in foetal developement, and ends only with life, having for its object the propulsion of the blood to the different tissues and organs and thus supply material for chemical action in fitting proportion that "the lamp of life may burn". Being such a vital organ its derangements are necessarily perilous; and therefore to the physician most interesting. And of all the organs of the body, none are so prone to hypertrophy as the heart.

Developement of different parts of the body, the cessation of growth of parts after an inherent principle of limitation, and the preservation of a definite size and form during the constant molecular changes incident to nutrition, are

physiological mysteries that have not yet been explained. Hypertrophy is a term of quantity and is properly applied to enlargement from an increase of the normal material, and involves an abnormal activity of nutrition and an exaggeration of that principle or force which determines the normal size and form of the different parts of the body. Enlargement from an accumulation of fat upon its surface and between the muscular substance, or by the presence of different morbid products in these situations, is not true hypertrophy; for under these circumstances, notwithstanding the abnormal volume and weight, the muscular substance may be diminished; that is, instead of hypertrophy, there is atrophy of the organ. In hypertrophy the normal balance between

the appropriation of nutritive material and destructive assimilation in the part is is disturbed by the former being in excess. The best illustrations of it are in the huge fleshy masses visibly prominent in the arm of the blacksmith or the lower limbs of the pedestrian.

Etiology.— The law governing in the animal economy, that increase of function leads to augmentation of bulk. The function of muscular tissue is contraction and the more frequent and energetic contractions beget an addition of substance. And the muscular walls of the heart increase in bulk precisely as the voluntary muscles become so when persistingly exercised; hence true hypertrophy occurs whenever the function of the organ is permanently or repeatedly overtasked, and when the resistance

which it should normally possess is increased.

Of all causes, valvular lesions are the most fruitful in its production. The valvular cusps and segments may be thickened and contracted, or simply encumbered with vegetations, or rendered rigid by calcareous deposits. The several portions of the heart may exclusively participate in the enlargement, or it may be confined to one or more of the anatomical divisions without extending to the whole organ. Of the several portions, the left ventricle is most frequently enlarged; next in liability to enlargement is the corresponding auricle; next the right ventricle, and last, the right auricle. The valvular lesions which especially lead to hypertrophy of the left ventricle, are seated at the aortic orifice, and they may involve either contraction or regurgi-

by obstruction, or incompetence of the valves and consequent regurgitation of the blood from the aorta into the ventricular cavity, or both combined. Enlargement commences in the left auricle in connection with lesions affecting the mitral orifice and valves, and involving either stenosis or insufficiency of the valves. These lead to accumulation of blood in the left auricle, the passage of it from the auricle to the ventricle being impeded by obstructive lesions, and a retrograde current from the ventricle to the auricle being incident to lesions which render the valves incompetent. Then follow pulmonary congestion, and consequent upon this, enlargement of the right ventricle. So far as ventricles are concerned in connection with mitral lesions, the right is first enlarged, and its

enlargement predominates over that of the left, unless aortic lesions also exist. Enlargement of the right, leads ultimately to that of the left ventricle, partly from the muscular fibres common to both ventricles, and in fact from the ultimate effect on the left ventricle of obstructive accumulation successively in the right auricle and the systemic veins. Lesions on the right side of the heart are comparatively so infrequent that little need be said of them. Contraction and valvular insufficiency at the orifice of the pulmonary artery, give rise primarily to enlargement of the left ventricle. Lesions at the tricuspid orifice being extremely infrequent, enlargement of the right auricle rarely occurs, except consecutively to an affection of the right ventricle. All these lesions cause augmented

action of the heart, in order to overcome the impediments and carry on the circulation.

Besides valvular lesions, atheromatous and calcareous disease of the aorta may have the same effect, the diminished elasticity of the walls of this vessel, constituting an obstacle to the circulation, and thus leading to increased power of the contraction of the left ventricle. Obstruction in the same vessel from aneurism, is often associated with lesions at the aortic orifice, involving either contraction, or regurgitation, or both. Degenerative changes in the other arteries, as atheroma widely diffused throughout their walls, the vessels ... becoming elongated and tortuous, so that friction is increased, that is of the blood against the sides of the arteries, but the elasticity of their coats is seriously dimin-

ished. So too the enlarged area of the arterial branches occasioned by corpulency. Enlargement, either limited to, or predominating in the left ventricle, occurs as a concomitant of chronic Bright's diseases. The blood being impeded in its passage through the minute systemic vessels owing to the contamination by excrementitious materials in consequence of the renal degeneration, and the left ventricle has to make extraordinary efforts to propel the blood. Chronic pulmonic and vesicular emphysema may cause hypertrophy in the right ventricle. Even persisting functional disorder may eventuate in the production of enlargement of the heart. Hypertrophy is conservative though, and especially in the left side of the heart. In lesions of the aortic valves hypertrophy of the left ventricle neu-

realizes the baneful influence of the defective valves. While the latter tends to retard the circulation of the blood, and to render it venous, hypertrophy accelerates its course and makes it arterial. While valvular deformity causes decrease of the contents of the aorta, hypertrophy renders the aorta fuller. While deficience of the valves hinders the outflow from the pulmonary veins, and lets the circulation lesser, overcharge itself with blood, hypertrophy facilitates such outflow, and relieves the pressure upon the pulmonary system. Hence hypertrophy in most cases is conducive to the welfare of the economy in view of the circumstances under which it occurs, and is nature's resource by which impending danger is frustrated and existence prolonged; for the augmented power of action which

which the heart acquires with its increased muscular growth enables it better to carry on the circulation despite the obstacles afforded by obstructive and regurgitant lesions. Hence we see that it is compensatory and that the mechanism of its production is the same in all these cases, namely, long continued, augmented power of the heart's action.

Anatomical Appearances.— The prevalent weight of the heart in health, in the male, varies from ten to twelve ounces; in the female from eight to ten. It may become hypertrophied to such an extent that it is five or six times heavier than normal. The thickness of the left ventricle is not far from half an inch in the male, and a fraction less in the female. That of the right ventricle is a

a little over one-tenth of an inch in the male, and in the female somewhat less. The average thickness of the right auricle is about a twelfth of an inch, and of the left somewhat greater. The increase in thickness and weight of the different parts corresponds to the amount of hypertrophy of the part. The normal shape of the organ is conical; in hypertrophy of the right ventricle, the organ grows broader, and assumes a more spherical form. If limited to the left ventricle the organ is longer, and the lower end of the right does not extend so far downward around the apex as it otherwise should. The walls of a hypertrophic heart are rigid and hard, and the lumen is also abnormally large. The situation of the heart passes more into the horizontal direction, so that the base looks inwards the

right and the apex towards the left. When the ventricular walls are thickened, the papillary muscles are not infrequently more or less increased in size. Simple hypertrophy gives rise to thickening of the muscular parietes of one or more of the cavities; in eccentric, the walls become thicker and the chambers larger than normal, and the concentric variety is accompanied with diminution in the size of the cavity. This last occurs only as a congenital malformation, and never as a consequence of disease.

Symptoms and Course.— Simple hypertrophy of the heart, scarcely ever exists alone, or independently, but is the accompaniment of other grave diseases of the organ, or great vessels, these complications often neutralize the effects which it

would have, were it to exist alone. When sufficiently enlarged to displace the lungs to either side, and depress the diaphragm, there may be a sensation of fulness in the chest, of pressure in the epigastrium, and often of a considerable degree of shortness of breath. In absence of aortic and mitral lesions involving obstruction or regurgitation, the pulse would represent by its force and fulness, the power of the ventricular systole. Dyspnœa, when, from any cause the action of the heart is increased, as after exercise, would denote that the hypertrophy affected the right ventricle. The frequency of apoplexies of the brain is due in part to the fact that the vessels of the brain are thinner than those of other organs, and hence more liable to rupture when unduly distended, and in part also, to the

circumstance that the coats of the arteries in hypertrophy of the heart are often atheromatous. After dilation and systemic congestion have taken place, effusion begins about the instep, and afterwards occurs in the areolar tissue of other parts and into the serous cavities, and increases dyspnoea and adds symptoms incident to the anasarca. When dyspnoea becomes a prominent symptom loss of sleep adds to the sufferings of the patient; That which is obtained is apt to be imperfect and disturbed by frightful dreams. In the Wards of the University Hospital of Maryland, I have seen patients in this condition unable to lie down for many days before death, short periods of sleep being obtained by inclining the body forward and resting the elbows on the knees, or on the bed. The appetite and

digestion then become impaired, but emaciation is not a marked effect. Albuminuria may occur, owing to the renal congestion.

Physical Signs.— The diagnosis of this affection must rest on physical signs. The symptoms may point to this lesion, and afford corroborative evidence of its existence, but they are not adequate to lead to any positive conclusion.

Inspection.— Shows the visible impulse to be increased in extent and force, and especially if dilatation of its cavities attend the hypertrophy.

Mensuration.— Shows increased size of the chest.

Palpation.— The impulse has a heaving, lifting character, and the area greatly exceeds that within which the normal apex beat is felt. When the left side is hypertrophied, the apex beat reaches further to the left than natural, and below the

normal position. Abnormal conditions extrinsic to the heart alter the relations of the apex to the walls of the chest, such as enlargement of the left lob of the liver, distension of the stomach, ascites, and enlarged spleen, but these do not lower it. Such conditions must be excluded before the abnormal situation of the apex can be regarded as a sign of enlargement of the heart. The force of the beat and lifting impulse show that the enlargement is due to hypertrophy rather than dilatation, or that hypertrophy predominates. The sensation in palpitations is that of increased action, and in hypertrophy of increased power, and the impulse prolonged.

Percussion.— The area of dulness increases laterally and downwards. If confined to the left ventricle, then the dulness may extend considerably

beyond the left nipple. While on the other hand, when confined to the right ventricle, the dulness may extend considerably to the right of the Sternum.

Auscultation.— The systolic sound is intensified, dull and prolonged in hypertrophy of the left ventricle. Increased intensity of aortic and pulmonary sounds separately, is a sign of hypertrophy affecting in the one case the left, and in the other, the right ventricle. Not only is the murmur in tranquil breathing over the cardiac region inappreciable, but may not be discoverable although the breathing be forced.

Prognosis.— Hypertrophy of the heart admits of a very favorable prognosis, accepting the narrowest meaning of the term. And in so many diseases of the heart in which it is found as a

complication, it is suspended, and actually mitigates the danger of the third disease. With the transition from genuine to spurious hypertrophy, the picture changes and many dangers arise.

Treatment.— Study and investigation have removed parts of the tangled web which once clouded the pathology of this disease, and hence its treatment is better understood now than formerly. It must be remembered, that enlargement of the heart by hypertrophy, as a rule is compensatory, or in other words, a conservative provision to meet the difficulties incident to the morbid conditions upon which the hypertrophy depends. Valvular lesions, pulmonary emphysema and Bright's disease are not of a nature to admit of removal; but some-

thing can be done towards preventing or limiting impediments to the circulation, by avoiding extrinsic causes which excite irregularity of the action of the heart and the employment of measures designed to equalize and tranquillize the circulation. The diet should be nutritious. The appetite and digestion, if impaired, should be improved by tonic remedies. Moderate exercise in the open air is to be encouraged, very active exertions being of course interdicted. When dilatation occurs, digitalis is a valuable remedy, appearing to relieve irregularity of the heart's action without diminishing, but, on the contrary, increasing the power of ventricular contraction. The following is a favorite prescription of Prof. T. Donaldson.

℞ - Fr. Digitalis gtt x

Fr. Ammon gtt xx . M. et Sig. Take t-d.

Dyspnoea and other pulmonary symptoms are sources of annoyance. Ether and mild revulsive applications to the chest or dry cupping may mitigate the dyspnoea. Opiates to check expectoration will likely increase the distress. Should general dropsy exist, it should be met by diuretics and hydragogue cathartics. The digitalis acts will here by augmenting the tone and contractility of the vessels, besides moderating the action of the heart, thus restoring the balance of the circulation, and relieving the congested kidneys, permits their secretion to take place freely. It is in cardiac dropsy that diuretics are more likely to effect the absorption of the effused liquids than in renal; for, in the latter, the kidneys being diseased, rarely respond to diuretics. Hydragogue cathartic

come next. Elaterium is very efficient. The following combination recommended by Prof. Wm. T. Howard, I have seen act most admirably in cardiac and renal dropsy too, when all other remedies had failed to produced the desired result. namely;

℞ extr. Hyoscyam gr vi

Pulv. Capsici gr xij

Pulv. Elater gr ij Ft Pills No. x ij

et sig. One every four hours. When too much depression follows give one three times a day. Pulv. jalapae comp is good remedy, also Bitartrate Potash, and podophyllum. Should anaemia exist, strychnia and digitalis combined are recommended by Prof. Stillé, and Iron too. Hypertrophy not connected with valvular lesions, excessive action may be moderated by aconite,

hydrocyanic acid and belladonna. Belladonna-
plaster worn over the praecordia is beneficial
in tranquillizing the action of the heart.

Thesis.

Typhoid Fever.

In token of the high respect for his superior mental culture, and his assiduous labors in striving to advance his class in the narrow road of sound pathology and practice, do I respectfully dedicate this thesis to Prof. Meaburg.

In selecting this disease as the subject of my thesis, I do not want to convey the idea that I am better acquainted

with it than any other of the numerous maladies to which the general practitioner will be called to treat; but as it is the most dangerous, as well as prevalent, disease in my section of the country, I thought it expedient to know and understand it as well as possible for a student to [illegible] my disease from theory. In treating this subject, it will be necessary for me to adopt the plan of describing diseases used by some authors in Practice, as I do not

consider competent or in-
genious enough to devise
any other method that
would answer for us
well, consequently I will
follow the method of Prof.
"Austin Flint" in his able
and valuable work on
the "Practice of Medicine",
inserting, at the same
time, material from my
valuable notes, taken from
the lectures on Practice
which have lighted my
path during this session.
Typhoid is one of the
essential, or Idiopathic

fevers; and I suppose it would be well for me to define an idiopathic from a symptomatic fever, as I wish to make the subject as plain as possible. An essential fever is one of the elementary forms of disease, that is there are no other lesions in the economy to which the symptoms can be referred. A symptomatic fever is one of the secondary forms of disease, or the febrile symptoms are

caused by some local inflammation of some organ of the body, which cause is the primary lesion. The word Typhoid means Typhus-like, or resembling Typhus. Typhoid is a continued fever characterized by more or less constitutional symptoms.

Anatomical Characters — This disease has several lesions which are highly characteristic and important for the practitioner to understand. These lesions

are seated in the glands of the small intestines, and are pathognomonic of this disease. First, the glands are congested and enlarged at the same time; second, sloughing away of the gland and the deposit; third, ulceration; fourth, cicatrization. It should be remembered that cicatrization never leads to stricture of the gut. The ulcers are distinguished from tubercular ulcers by the overlapping of the mucous

membrane, and are not hardened at the edges. The glands nearest the cæcum are first affected and the ulceration proceeds upwards, those highest in the intestinal tract being last to become ulcerated. These ulcers may lead to perforation of the intestines. The mesenteric glands are enlarged at the same time. These lesions are characteristic of this disease and occur in no other.

Clinical History — This fever is developed gradually, and may take several days in this prodromic stage. It is sometimes hard to establish the exact date of commencement; but generally the time is reckoned from the patient's taking to bed, after this the stages are reckoned by weeks; as, 1st, second, and third. The symptoms belonging to the prodromic stage are chills, cephalalgia, nausea

irritability, epistaxis, pain in the limbs, and looseness of the bowels. After this there is a marked change in the countenance. The face is red and flushed, and presents the appearance of plethoricity. Coughing sounds may be produced by pressure on the abdomen. The temperature increases regularly for about a week and does not rise suddenly as in some other forms of fever. During the sec-

and neck the papular appear; they occur in about three fourths of all of the cases. The sense of hearing is somewhat obtunded. The tongue is protruded with difficulty, and is tremulous; sometimes the patient seems to forget to draw it back, showing a loss of mental concentration. Subsultus tendinum is sometimes present and is oftener observed at the wrist than in any other situation.

The disease commonly lasts three or four weeks, and is a rule takes a change for better or worse on or about the twenty first day - this is called the critical day by some authors. The increase of the pulse of eight or ten beats per minute should indicate a corresponding rise of temperature of at least one degree. The pulse ranges from one hundred to one hundred and twenty. The specific

gravity of the urine is increased, and acidity on account of containing more urea. In some stages of the disease the urine may contain albumen. Hemorrhage from the bowels occur in a proportion of the cases, and may be so abundant as to cause death. It is disease rarely occurs in person over fifty years of age. The lesion is mostly ulcerous in its origin, but may in some

cases to propagate by contagion. The contagious material by which the disease is conveyed to other persons is believed by many to be in the feces. The stools are usher colored.

Diagnosis — This fever is to be differentiated from Typhus and remittent fevers. This is not always easy to do in the beginning of the career, but as the disease advances the diagnosis is easily made.

First, you will take into consideration the period occupied by the febrile stage, which is longer in this form than in any of the other two named above. Second, the diarrhea, ashen colored stools, with the abdominal symptoms which as before mentioned are pathognomonic. Third, the occurrence of epistaxis, and the appearance of the eruption. Fourth, the age of the patient, and the sea-

son of the year in which the disease is most prevalent. To diagnose from any of the symptomatic forms, you determine whether there are any lesions in any of the internal organs which would bring about any such constitutional effects. The above points fully considered and recognized will render the diagnosis easy, especially if the practitioner has had any

clinical experience.

Prognosis — The statistics as given by most writers show a very large mortality, vary from fifteen to twenty per cent of all of the cases taken into account. Though different epidemics show a marked difference in this ~~is this~~ respect, however it is enough to say that the disease is extremely dangerous. Death is rarely due to the disease per se; but is generally attributable

to some of the many complications which the disease is liable to take on; viz. Pneumonitis, Peritonitis from perforation, or from the severity of the abdominal symptoms. Hiccough, and great frequency of the pulse denote the near approach of death. Carphologia is another very unfavorable symptom. Hemorrhage from the bowels, is not considered by Dr. Flint to be an unfavorable occurrence in many cases, when

from him. I have only seen two cases of this disease — in both puerperal hemorrhage ensued, and both cases terminated fatally.

Treatment — It must be remembered at the beginning that there are no known remedies by which this disease can be aborted or cut short of its regular termination. Several remedies have been proposed for this purpose — Tannin, Opium, Hot steel, &c; but all of them

have fallen far short of their reputed efficacy. The only correct mode of treatment is the Expectant method — that is watching the disease, combating the symptoms, and giving the patient rest by the use of anodynes. If the bowels be constipated use a mild laxative — a teaspoonful of castor oil. On the contrary if you have persistent diarrhea you may use opium, with an astringent — sugar of Lead-Tannin.

To allay high fever, give the nitrous powder, veratrum viride, or Quinine. Dr. Chew recommends the use of Quinine in the highest terms. For the ulceration of the bowels, and the intestinal hemorrhages, the oil of Turpentine is considered as the best remedy. It may be given in doses of from five to twenty drops every two hours. If red and dry tongue with diarrhea, it should be used. As the cause improves this

treatment should be gradually suspended. If may use kino or tannic acid for hemorrhage from the bowels. A sudden fall of temperature may lead you to suspect that hemorrhage is about to occur. If the patient becomes prostrated then the stimulant treatment must be used. The indications for the use of stimulation, are increased frequency of the pulse, with diminished force of the heart action. The

best guide to the force of the heart is the resonance of the first or systolic sound of the heart. Brandy is the best stimulant known and may be administered in larger quantities in disease than would be warrantable to give in other cases. Here from ℥ß to ℥ij as often as in your judgment you may deem advisable. The food in these cases should always be liquid, and [illegible] es

nutriment as possible. Beef tea is an excellent diet, as is milk. The patient's head should be shaved as soon as the diagnosis is clearly made. The hygienic measures should be as favorable as possible - the carpets should be removed and all woolen goods that can be dispensed with. Plenty of fresh air is a thing indispensable and should not be neglected by any means. The acid treatment is much extolled by some writers and is based on the notion

the theory of the susceptibility of the blood. The Sulphurous is most highly recommended, or better still the sulphite of soda. To sum the whole thing into a short sentence — Vary your remedies according to the special indications, and do not follow a routine practice.

Very Respt'h

Js. B. Harvey
"

Thesis
on
Ovariotomy
by
A. Templeton Shirlock
of
North Carolina
Class of 1876-7

Ovariotomy is the [illegible] for the extirpation [illegible] involving the ovaries. This [illegible], which was at one time looked [illegible] on [illegible] public [illegible], and [illegible] many prominent gentlemen of the medical profession, is [illegible] numbered among the [illegible] brilliant triumphs of [illegible] surgery, it was first performed by Dr. [illegible] in 1809, although several attempts have been made by European writers to attribute that honor to British Surgery. Dr. [illegible]'s [illegible] [illegible] [illegible] [illegible]

example was [illegible] American surgeons, with varied success, and still less favorable results were obtained in England, so that the operation was again under bad repute; and it was not until within the past twenty years that the principles involved in the operation were fully realized or appreciated by the profession as a body, up to which time [illegible] that the tumors might be cured by medicine, and after a trial of almost all known drugs this plan was abandoned, when it was that tapping was introduced

[illegible] as beneficial as was expected, it [illegible] [illegible] [illegible]

writers, for instance Drs Barnes and Spencer Wells, both reliable authorities upon this subject, state that although tapping is only palliative it does prolong life and allows the surgeon time to get his patient's system in a condition to bear the severe operation of extirpation, and that it is a mistaken idea to suppose that it causes bad results in ovariotomy. Tapping may be performed either through the abdomen, vagina or rectum, the former [illegible] is considered the best plan, after tapping the cysts may be injected [illegible]

Iodine, with the [illegible] of dis-
organizing its tissues and pro-
moting absorption, this plan, as
I have before stated is only pal-
liative, and sooner or later ovari-
otomy will have to be performed.
These tumors are divided into
two great classes, the solid and
cystic, the first consists of [illegible]
fibrous tissue, but as they [illegible]
[illegible] attain a size sufficient
to demand extirpation, and are
therefore foreign to my subject,
I will pass them over, the se-
cond class have been arranged
under three heads, 1st Monocysts,
2nd Polycysts, and 3rd Dermoid

cysts, the first often attain immense size, and as a rule their growth is much more rapid than the other kinds, they are supposed to originate from an altered and enlarged Graafian vesicle, the third are rather rare and never grow to any size, they present irregular surface with thick walls, and contain a thick lard or butter like substance of a yellowish color, also hairs, teeth, and bones, nothing definite is known as to the cause of this disease, pathologists at the time held that it was the remains of an ex-

tra uterine impregnation, but this theory is negatived by the fact that these tumors have been found in children, and even in the scrotum of the male, they also seldom demand our attention in this connection, the second class, the Polycysts, are the ones that are oftenest met with; they are caused by the morbid development of several Graafian vesicles, and consists of a large over-sack inclosing other cysts of all dimensions, these in their turn inclosing other smaller ones, the fluid contained in them is generally thin and

watery, but not exclusively so, for at times it is found to be of the consistency of thin jelly, mixed with blood and pus. Ovarian tumors are diagnosed from other enlargements of the abdomen by the history of the case, by inspection and measurement, by palpation, and by [illegible] and percussion, the two conditions most nearly resembling ovarian tumors are ascites and pregnancy, in ascites the abdomen is symmetrically enlarged, and upon change of position the fluid gravitates to the most depending part, and the greatest

circumference is found to be at the umbilicus, while in tumors the abdomen is more enlarged on one side than the other, and the [illegible] not vary with [illegible] and the [illegible] is found to be [illegible] below the tumor, [illegible] in ascites gives a clear sound over the middle of the abdomen, while around the edges the sound is dull, the tumors give a dull sound in every part, the diagnosis between [illegible] is also made by the history of the case, by auscultation, and by vaginal exami-

nation, if the history gives rise to suspicions of pregnancy, the stethoscope will reveal the beating of the foetal heart, and if the uterus is enlarged, and [illegible]ment can be obtained, it will settle the matter beyond a doubt. After the surgeon is satisfied that he has to deal with an ovarian cyst, he should try to get his patients system in as good condition as possible, for this purpose Dr Simpson recommends a course of the perchloride of iron, and Dr Wells a combination of iron and the carbonate of lithia, with the bicarbonates of

potash and soda, with the double view of regulating the action of the kidneys, and restoring the blood to as healthy a condition as possible before operating.

The instruments necessary for this operation are few in number 1st a scalpel, a [illegible], a [illegible], a clamp, needles and silk, forceps and ligatures, — all things being in readiness the surgeon commences his incision one inch below the umbilicus and carries it along the [illegible] [illegible] [illegible] in [illegible] inches of the symphysis pubis, cutting down to the linea

alba at the first stroke, then it
and the fat beneath is carefully
divided until the peritoneum
is brought into view, when if there
is any fluid free in the cavity,
it will bulge through the open-
ing, this must be emptied, and
the edges of the wound cleanly
sponged off, and [illegible]
[illegible]
as to prevent any bleeding into
the cavity when the peritoneum
is opened, this is done by catching
it up with a hook and dividing
it on a [illegible] the full ex-
tent of the outer opening, this
brings into view the glistening sur-

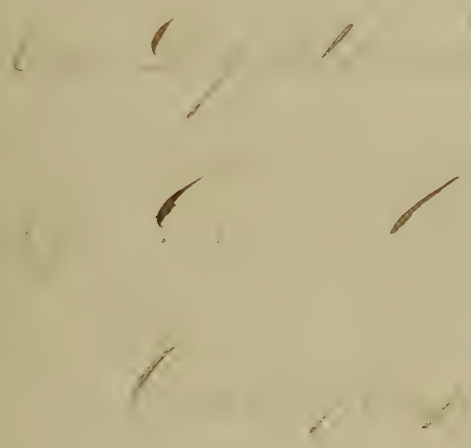
face of the tumor, which must now be emptied as near as possible by the trocar, when the nature and extent of the adhesions can be seen, these in most instances can be broken down by the hand being passed between the tumor and the peritoneum, if divided the tumor is gently drawn through the opening and all the adhesions [illegible] out; it must now be supported by an assistant while the surgeon proceeds to adjust a clamp upon the pedicle, which is composed of the broad ligament and fallopian

tubes with large arteries and veins, after it is secured it is cut off about an inch from the clamp and the stump is then tied with perchloride of iron to prevent suppuration, the peritoneal cavity is now sponged out clearly and the wound closed by interrupted sutures which are placed through the whole thickness of the walls so as to catch the peritoneum if necessary superficial sutures may be placed between these, the [illegible]

the [illegible] being [illegible] with a wide [illegible], the patient must be kept on her back with her knees supported by a pillow, and covered by light but warm blankets; the after-treatment in [illegible] cases consists of little more than good nursing, the bladder must be emptied by means of the catheter every five or six hours and if it is scanty and high colored the citrate of potash and lithia may be given also small opiates frequently to allay pain, little food is required for several days, but beef tea and broths may be given and if there is great exhaustion brandy

must be given in small doses, the dressings must not be disturbed for at least thirty six hours, after that daily renewing is required, the sutures may be removed on the fourth or fifth day, the abdomen being supported for several weeks by the adhesive plaster, the clamp in most cases falls off by the seventh or eighth day and the patient rapidly recovers in favorable cases, when peritonitis or septaemia supervene they must be dealt with according to their natures and intensity, the first is the most frequent and is almost always fatal in spite of [illegible]

we can do, these however are the exceptions and not the rule. Sor hundreds of sufferers are yearly rescued from impending death and restored to health and happiness, thus proving the merits and the inestimable value of the operation of extirpation.



Diphtheria.

This is a disease of antiquity. [illegible] in Egypt as an epidemic, and, centuries afterwards, we find it described by Aretaeus, under the name of Malum Aegyticum, And [illegible] by [illegible] the year 380 of our aeia. But the first known [illegible]

remained in Holland [illegible]
afterwards, it is said to ha[illegible]
places on Continental [illegible]
middle of the last century, it [illegible]
where it was seen and described by Mauriau
and Chomel. And about the same time, Ghisi
[illegible]
at Cremona, in Italy, and is the first known
[illegible]
membrane characteristic of the disease. In this
country, the first published description of the
complaint, was by Dr. Samuel Bard, of New
York [illegible]
[illegible]
in 1771. From that date, the complaint seems
to have been little noticed, until its occurrence
[illegible]

[illegible]
was described by M. P. Bretonneau, of that place
[illegible] the first
[illegible] of the [illegible], and [illegible]
the name by which, or by a derivative from it,
the affection is now universally [illegible].
Since that period it has scarcely been absent
from France; though especially prevalent at
certain times and places, in 1855, it prevailed
as an epidemic, in Paris and Boulogne.
In the early part of 1857, it passed over the
straits into England, where it spread quickly
through the southern counties, and almost sim-
ultaneously with the English invasion, it made
an attack upon the extreme West of our own
country, having in the autumn of 1856 [illegible]
[illegible] in its [illegible] form in the [illegible]

of St. Francisco in California, [illegible]
amined and described by Dr. V. G. [illegible]
that City. In the Atlantic portion of the [illegible]
States it was somewhat later in its onset, Sporadic
[illegible]
but the disease scarcely assumed the epidemic
form until the year 1860, [illegible]
various localities over this country, and since, and
at the present time it is considered one of the most
common and fatal epidemic Maladies

The frequent [illegible] epidemics [illegible]
the last twenty [illegible]
in [illegible]
[illegible] its cause and nature. [illegible]
[illegible]
[illegible]
been followed, namely: that [illegible]

on animals, and the [illegible]
microscope; Observers [illegible]
have discovered in patients affected with diphtheria
minute [illegible]
which they [illegible]
[illegible]
[illegible]
[illegible]
[illegible] but only two of
these it is thought sustain [illegible] relation to
diphtheria, namely: the spherical bacterium, or as
Cartel designates it, the micrococcus, the other [illegible]
though less numerous, is the [illegible] bacterium [illegible]
and-like bacterium. These observers [illegible]
other important facts relative to diphtheria; that
in tissue, which is the seat of diphtheritic in-
flammation, and in every diphtheritic pseudo-
membrane, the spherical bacteria occur in great

numbers, accompanied by a smaller number of the other variety. In severe cases, in which the system is [illegible] as the symptoms of diphtheria become more grave the number of [illegible] in the blood, in proportion to the [illegible] in the blood. [illegible] to his experiments, his doctrine, and the [illegible] elements, and of rabbits to the same [illegible] tion [illegible] are taken up by the blood and carried to the [illegible] and [illegible] tissues, [illegible] in the blood and [illegible] in the [illegible] tissues, [illegible] in the blood and [illegible] in the [illegible] tissues, [illegible] in the blood and [illegible] in the

clinical observations, yet the importance of [illegible]
experiments cannot be too highly estimated.
[illegible] assigned [illegible] diphtheritic [illegible],
in most cases appears primarily and chiefly upon
the faucial and nasal surfaces, is that the air
which [illegible] the [illegible] of the [illegible]
passes over these surfaces, and, as regards the fauces,
the [illegible] which [illegible] [illegible]
the important practical [illegible] from this [illegible]
is, that diphtheria [illegible] [illegible]
[illegible] [illegible] [illegible]
any theory which regards diphtheria as always a
[illegible] in [illegible]
accepted by the Profession in general. Although it
[illegible] [illegible] [illegible]
others in which from the severity of the initial sym-
toms and the little [illegible] [illegible]

is every reason to suppose that the blood [illegible]
[illegible]
the belief that diphtheria is in certain cases a
constitutional malady in its commencement,
while in others, probably in most cases, it is pri-
marily local, and subsequently constitutional. [illegible]
the theory that bacteria [illegible] diphtheria [illegible]
course, invalidated by the admission that the [illegible]
is sometimes [illegible]
festations of the disease. But while certain facts
lend support to the bacterian theory, certain other
facts show that there must be some other cause
of diphtheria which is distinct from the bacteria.
The following are some of the principle facts [illegible]
the theory [illegible] in the [illegible] of [illegible] and
in [illegible] where diphtheria [illegible] the mi-
croscope discloses the existence of bacteria, again bacteria.

which seem to be identical with those [illegible]
frequently found upon the gums, [illegible]
health; where they produce no perceptible [illegible]
And an other fact which, till it is explained, [illegible]
produce skepticism; why do they not irritate [illegible]
[illegible]
along in the current of air, are arrested upon the fauces
where they produce specific inflammation, a large
number must enter the lungs, where we would
suppose, from the delicate structure of these organs,
[illegible]
[illegible] of diphtheria. It is evident that
the truth [illegible]
diphtheria lies in one of two hypotheses - either [illegible]
these parasites, are the specific virus, and therefore
cause the disease, or that the cause is something
more subtle not yet discovered, which so acts the

tissues and the blood that the [illegible]
in which the [illegible]
[illegible]
commencement is redness of the fauces, with more
less swelling of one or both tonsils. There is an
exudation, which is at first thin and semi-trans-
parent, becomes opaque and more or less thick.
The lymph is deposited successively in layers form-
ing a stratified [illegible] membrane, [illegible]
[illegible], sometimes different points or patches
are observed, which extend and coalesce so that
the fauces are almost entirely [illegible]
The pseudo-membrane is [illegible] attached to the
mucous surface, which it penetrates. Often [illegible]
days decomposition commences, and that which
was at first formed, becomes after than the
more recent production, when this [illegible]

[illegible] of the exudation changes from a whitish or a grayish white to a dirty brown, and its exposed surface is uneven and jagged, and the edge present well defined [illegible] producing an appearance very much like that of an ulcer. Different cases differ in the extent of the affection within the fauces. The exudation may extend over the posterior part of the [illegible], the palatine arches, and forward over the [illegible] part of the soft palate. [illegible] if life be prolonged the [illegible] is [illegible] off. The exfoliation sometimes takes place in three or four days, and is sometimes [illegible] to twenty days, and not [illegible] it is followed by a second and sometimes a third and even a fourth formation of a false membrane. The [illegible] of the neck and

especially those behind the angle of the [illegible] jaw, are more or less enlarged, painful and tender in the great majority of cases. As a rule the enlargement corresponds with the affection [illegible] in the throat. In [illegible] cases the disease [illegible] itself, locally in the fauces alone, but in cases of more [illegible] and danger, the affection extends to other situations. The [illegible], both [illegible] and posterior, on one or both sides, and sometimes the Eustachian tube is involved. The [illegible] membrane of the [illegible] and [illegible] present patches or be completely coated with false membran. The eye is sometimes invaded causing impairment of vision from [illegible] of the cornea. The parts communicating with the fauces are not the only parts liable to be affected in cases of diphtheria. The meatus [illegible]

[illegible] the [illegible] the [illegible], and prepuce sometimes affected. The exudation also appears in some cases on the skin in parts excoriated, or [illegible] surfaces, [illegible] bites, in short [illegible] the skin is deprived of the epidermis.

As with other contagious diseases the symptoms vary greatly in intensity in different cases, but general in the commencement of an epidemic, diphtheria is more [illegible] and fatal, and its symptoms more violent than when the epidemic influence is abating. The symptoms in the commencement are often mild. There is a degree of [illegible] with rigors, often slight but [illegible] hours, which is succeeded by more or less fever, headache, languor, and loss of appetite, the patient continuing to walk about, as if

affected with a severe cold, for which the initial stage of diphtheria is often mistaken. In other cases the invasion is more abrupt and severe, great febrile reaction headache pain in the ear, aching of the limbs, and loss of strength, compel the patient to take to bed from the first. Delirium may be present, but it is unusual; The tongue is coated with a moist fur sometimes more or less of the exudation appears upon it. The appetite is poor, The pulse in different cases varies greatly in volume and frequency, it is often full and strong in the first days of the disease, but in the latter part, when death from blood poisoning approaches, it is feeble and [illegible]. At first there are no marked symptoms referable to the respiratory apparatus, but

[illegible]

[illegible]

[illegible]

The presence of the local inflammation [illegible]

[illegible] by

hoarseness of the voice and an occasional dry

cough. In severe cases the breath is ordinarily

[illegible]

[illegible]

disease presents no distinctive traits, and the

[illegible]

[illegible]

[illegible]

place. The only liability to error, is the confound

[illegible]

secretion in some cases of pharyngitis.

As regards the prognosis of diphtheria, it

is [illegible] at [illegible]
than when the epidemic [illegible]
vailing its gravity is in a [illegible]
[illegible] symptoms, [illegible]
is from an invasion of the larynx, the cases
in which the air passages become involved the
[illegible]
or contributes to the fatal results whenever the
larynx is involved. The danger is second
from Asthenia or exhaustion. The violence
of the disease may destroy life within [illegible]
[illegible] from the date of the attack. [illegible]
[illegible] in which the [illegible]
[illegible] the diphtheritic
[illegible]
posterior and anterior nares, or if it exist
abundantly in other situations. Other

[illegible]

[illegible]

other situations, great frequency and feebleness of the pulse, [illegible] of the [illegible], [illegible] of albumen in the urine, convulsions, delirium, and coma. Yet always bear in mind the important fact that [illegible] to sudden and [illegible] syncope in this disease.

With reference to the treatment in diphtheria. It is obvious if the views expressed in regard to its pathology are true, that the early topical treatment of diphtheria is of the utmost importance, [illegible] observation teaches, that the [illegible] of this malady is in most instances proportionate to its [illegible] manifestations, at least in the commencement of the disease. Now if by our treatment we can limit the exudation to a

[illegible] surface, or remove it at an early stage, the patient is probably safe. Prompt treatment [illegible] the [illegible] of the [illegible] is [illegible] [illegible] [illegible]

should be made with a camel-hair pen[illegible] it is less irritating, and applies a greater quantity of liquid to the fauces. As soon as the case comes under observation the following mixture is recommended by Prof. W. S. Howard to be applied every two or three hours over the fauces,

℞. Acid carbolic . . . . . gtt.
Liq. ferri subsulphatis . . . ʒj
Glycerine . . . . . ʒiij Mix.

If there is discharge from the nostrils indicating diphtheritic inflammation a little of the same mixture diluted with an equal quantity of warm water injected into each nostril every four hours will be very benificial. Quinine in doses of two to five grains, according to the age and severity of the case, is administered about [illegible]

and each [illegible] in the interval [illegible]
[illegible] to one teaspoonful of the following as
recommended by C. Lewis Smith, M.D.

℞ Potas Chlorat. . . . ʒj
Tinc. ferri chlorid. - - - ʒj
Syr. simplic. - - - - ℥iv Misce

No drinks are allowed for a few minutes after its administration as well as after the use of the brush, so as not to wash it away too quickly from the fauces. The employment of tonics, especially of Quinia and iron, in the treatment of diphtheria is almost universal in the profession. Our reliance must be upon these agents in those cases in which the system is infected from the first, more than upon topical remedies.

A

Dissertation

on

Iridis

by

F. M. Briel.

February 1877

Iritis.

In considering this disease, a thorough knowledge of the parts involved, is essential, in order that we may more fully understand its nature and the action of remedies addressed to its relief. Hence I shall, first, consider the anatomy of the iris and, afterwards, the disease in question.

The iris is a thin, circular and contractile curtain, almost similar to the choroid in general structure but containing more muscular fibres, perforated, not exactly in its centre, but nearer its nasal side, by a circular opening, the pupil, for the transmission of light into the eye. This opening varies according to the amount of light falling upon

it and in the changes of accommodation.
The iris is connected by its circumference
with the choroid, and is continuous,
posteriorly, by its marginal attach-
ment with the anterior borders of the
ciliary processes, anteriorly, by the liga-
mentum pectinatum with Descemet's
membrane. It hangs nearly vertically
behind the cornea with its pupillary
border, when not dilated, resting upon
and in front of the anterior capsule
of the lens.
The muscular fibres, which enter into
its composition, are arranged in
two ways, some around the pupil, forming
a sphincter, and known as the circular fibres,
others radiating from the pupil towards
the periphery, forming a dilator of the

opening, and known as the radiating fibres. Its vascular supply is obtained from the long and anterior ciliary vessels, and also from those of the ciliary processes. These vessels are arranged in two circles, one near the pupillary, the other near the ciliary margin.

It is supplied by the third pair of cranial nerves, and the sympathetic. The third pair supplies the pupillary muscle and the sympathetic the radiating fibres. The anterior surface of the iris is covered by pavement epithelium, continuous with that of Descemet's membrane, the posterior, with a few exceptions, by a dense layer of pigment cells, which prevents the light from passing through.

The iris, when healthy, presents a bright, glistening and glossy surface with sharply defined fibrillae, and circular pupil readily contracting and expanding under the slightest variations of light.

Iritis, inflammation of the iris, is seen under two principal forms, the plastic and the serous.

In plastic iritis, there is an exudation of lymph both in the structure of the iris and around the margin of the pupil, which tends to produce adhesions of the iris to the anterior capsule of the lens.

In serous iritis, there is an effusion of turbid liquid, having no tendency to form adhesions of the iris to the

lens, but, which accumulates in the eyeball, causing increase tension and obstruction of the intra-ocular circulation

In iritis, the iris loses its bright, glistening and glassy appearance, and becomes dull and hazy. In every case, the pupil is more or less interfered with. In the majority of cases, it is contracted, either from the swelling of the iris, or from the adhesions binding the iris to the lens. If adhesions have been formed, the pupil, if it dilates at all, will not dilate regularly under the influence of atropia. In some cases in which the disease has been maltreated, the pupil is universally adherent to the anterior capsule of the lens, and wholly immovable.

Vision may be impaired, owing to

the turbidity of the aqueous humor and glint to which the pupil is involved by the exudation.

In very many cases, there is no pain, but in a few it may exist, extending over the corresponding side of the head and face, and may become so severe as to require treatment.

The eyeball should not be sensitive to the touch. Should pain exist upon pressure, cyclitis coexists.

Photophobia and lacrymation sometimes exist, but not to a marked degree.

The subconjunctival tissue is injected, forming a pink zone around the cornea.

In severe iritis, besides the symptoms already mentioned, there is increased

tension, partial dilatation of the pupil and clouding of the cornea from the action of the effused fluid upon its epithelium. In some cases, the iris is pushed back, and the cornea bulged forward on account of the distention of the anterior chamber by the effused fluid.

Iritis may arise from various causes; its common causes are injury, ~~and~~ or some constitutional affections, such as syphilis or rheumatism. When caused by syphilis, it occurs during the secondary stage and affects most frequently both eyes.

The diagnosis of iritis is generally very easy. The loss of color, the dull, hazy appearance of the iris, the pink zone around the

cornea, the contracted pupil with impair mobility, the feeling of discomfort in the eye and no pain upon pressure, are symptoms by which it can be readily recognized.

If any adhesions exist, they can be readily discovered by using a solution of atropia. The mobility of the pupil can be discovered by closing the well eye and alternately shading and exposing the affected one. If healthy, it will be seen to dilate and contract readily, but, if its mobility is impaired, it will dilate irregularly, if it dilates at all.

The prognosis depends very much upon the severity and cause of the inflammation. If the disease be

seen early, before any adhesions have been formed between the edge of the pupil and anterior capsule of the lens, or whilst they are so slight as to yield to the use of atropia, the prognosis is more favorable than if numerous firm bands of adhesion have been formed, which resist the most energetic use of atropia. In traumatic iritis, the prognosis is generally unfavorable, because other structures are involved in the inflammation, and the extent of their implication must be considered.

In every case of plastic iritis of only moderate severity, the tendency is towards recovery, and, whenever this is the case, we should attempt to

favour it and prevent adhesions, or to overcome them, if any have been formed. The eyes should be used as little as possible and protected from irritants. No astringent solutions should be used, for, acting as direct irritants, they increase instead of diminishing the inflammation.

The point of greatest importance in iritis is to obtain full dilatation of the pupil as soon as possible, and for the attainment of this a solution of atropia should be applied to the affected eye. The atropia, by producing full dilatation of the pupil, removes the iris from contact with the anterior capsule of the lens, thus preventing the formation of

adhesions, and establishes a free communication between the chambers, thereby diminishing the tension and reviving the intra-ocular circulation. Rest, which is so essential in all inflammations, is afforded to the inflamed tissues by this complete dilatation; for by paralysing the circular fibres their constant efforts to respond to the stimulus of light is restrained and perfect rest is assured. The solution should be of sufficient strength to overcome the resistance offered by the inflamed tissues and exuded lymph. A solution containing atropia gr iv to water ℥j is sufficiently strong. Four or five drops of this should be placed

upon the cornea five or six times per day. When the adhesions consist of narrow bands, they may be broken by the constant use of atropia, the pupil again becoming circular and capable of responding to the influences of light. The atropia should not be withdrawn immediately after full dilatation has been produced, but continued (a weaker solution being used) until all evidences of inflammation have disappeared.

Sometimes the action of a strong solution of atropia is resisted, and increases rather than diminishes the irritability of the eye. In such cases, the application of leeches to the temple, or tapping the cornea, very promptly

alleviates pain, and, by relieving the irritation and congestion, produces freer absorption of the atropia and rapid dilatation of the pupil. In serous iritis, the pupil may become fully dilated under the influence of atropia without any abatement in the severity of the symptoms; the obstructed circulation presenting a barrier to the progress of repair.

The remedy here is paracentesis of the anterior chamber by which the fluid is evacuated, diminishing the tension and relieving the circulation. Paracentesis can be performed with any sharp-pointed instrument by those accustomed to eye operations, but, in unskilful hand, the stop-

paracentesis needle is best, as it cannot enter far enough to injure the iris, or lens.

This form of iritis is commonly connected with some disturbance of the general health; such as that produced by syphilis, or by imperfect action of the kidneys, and our object should be to improve the general condition, if possible, by internal remedies, while we apply atropia locally to the eye. The condition of the intra-ocular tension, and of sight, should be carefully noticed.

In iritis, occuring as an evidence of constitutional syphilis, mercury should be given internally along with the local application of atropia.

In some cases not due to syphilis, in which adhesions have been formed, mercury exercises a most beneficial effect, by softening the adhesions and producing their ready absorption.

The patient should be put under the influence of mercury as soon as possible. One grain of calomel in combination with one-fourth of a grain of opium may be given every three or four hours, until its constitutional effects become apparent. Corrosive sublimate one-twelfth of a grain three times a day is very good. Mercurial ointment may be rubbed into the inside of the thighs or arms once or twice a day, until

the mouth becomes slightly affected.
Not more than a half-drachm should
be used at each application.
In those cases in which the mercury
fails to do good, or in which it
would be deleterious, iodide of potas-
sium should be used in doses
of from five to ten grains ter die increased
if necessary.
In all cases the atropia should
be used regularly, and in solutions of proper
strength, while internal remedies
are being given.
If the iritis resists all the remedies,
if broad bands of adhesions
have been formed and the sight
much impaired, an iridectomy should
be at once performed.

The operation of iridectomy consists in tearing the iris. In iritis a small a piece as possible should be removed, and it should be taken from directly upwards, for in this direction the upper lid will not only hide the deformity, but will also prevent the retina from being irritated by too much light.

The instruments used in performing an iridectomy are; - a wire speculum for keeping the lid separated, a pair of fixing forceps for steadying the eyeball, a long, narrow, or lance-shaped knife for cutting into the anterior chamber, a pair of iris - forceps slightly bent for catching the iris and drawing it out through the incision and,

Lastly, a pair of iris scissors slightly bent at an angle for cutting the iris after it has been drawn out.

Iridectomy is thus performed: "The patient being in the recumbent position, and under the influence of chloroform, the surgeon separates the lids by means of the wire speculum, and, standing behind the patient's head, fixes the eye by seizing with the fixing forceps the conjunctiva and subjacent fascia, at a point directly opposite to that of the proposed section. A lance-shaped iridectomy knife - straight for the outward, but angular for the upward or inward section - is then to be thrust through the sclerotic at about half a line

to a line from its junction with the cornea, the handle being well depressed, so as not to wound the iris or lens, while the blade is slowly thrust onwards, until the section is of the desired extent. The knife is then slowly withdrawn, so as to allow the slow escape of the aqueous humor. The fixation forceps are now handed to an assistant, who may rotate the globe a little downwards, and steady it while the surgeon excises a portion of the iris; this is done by introducing the curved iris forceps, & spanding the blades so as to grasp the pupillary margin, cautiously withdrawing the forceps with the included portion of

iris, and snipping off the latter close to the wound by one or two cuts with the curved iris scissors.

If the section of the iris cause hemorrhage into the anterior chamber, the escape of blood may be facilitated by carefully introducing a curette, and making cautious pressure with the fixation forceps. The specimen being removed, the lids are gently closed, and a compressing bandage applied. For the first few days, both eyes should be excluded from the light."

An

Inaugural Dissertation

On the Report

of six cases

Respectfully submitted for Examination

to the Provost, Regents and Faculty

of Physic

of the University of Maryland

For the Degree

of

Doctor of Medicine

by

John A. Doerner

of Cumberland

Maryland

Session of 1876-77

Typhoid Fever

Laura Robinson, a little white girl, age 12 years, of a sallow complexion, red hair, thin and anaemic, residence – Cumberland, Md. She had been well up to Thursday Aug. 3rd, with the exception of being somewhat indisposed to take much nourishmend of any kind, and with a total lack of spirits for the last three weeks as regards seeking the company of her playmates. While in Church three weeks ago she fainted. Her Parents are in poor circumstances and consequently her nourishment and general surroundings were inadequate for nutrition. On the morning of Aug. 3rd I was called to see the patient and in making the examination I found her suffering with great pain in the right Iliac region, about the Caecum.

The eyes were suffused, the pulse wiry, and on touching the abdomen she would cry with great pain. Her bowels had not been moved for 3 days previous, and from the localized pain and suddeness of the attack I was led to make a Diagnosis of Intussusception of the bowels. The temperature was °106, pulse 149 – Respiration 31; from these symptomes it was decided to use Opium, and I accordingly injected, Hypodermically ⅛ of a grain of Sulphate of Morphia which relieved her of the pain to a great degree, but the pulse and respiration was not affected at all. I left a prescription consisting of the following ingredients – R. –

℞ Morphia Sulphas grs iij } Sig ʒj every
Aqua dist. ʒiij } hour as directed

I also ordered Turpentine Stupes to be applied over her abdomen. At 1 o'clock I saw the child again and found the following symptomes — Pupils widely dilated, pulse 180. temperature still °106, respiration about 35. She was not suffering pains to any extent, but when I would run my finger over her abdomen lightly she would give signs of great agony. She would not speak much and did not complain only when one would move her about and I inferred that she was feeling the effects of the Morphia. But in palpating her, I found the disease was general and not localized as in the morning. Her abdomen was very tympanitic and immensely swollen and respiration very difficult.

She could pass her urine but had had no evacuation from her bowels for four days, and under the circumstances I left them alone. After a slight pause I concluded it was a very grave case and as the temperature was so high I gave her a Hypodermic injection of ℳ xx Hydro-Bromate of Lirnia and continued the Morphia by the mouth with instructions to watch it carefully. I also ordered for her a wine-glassful of milk with a teaspoonful of whiskey in it. I thought it was necessary as her pulse was so weak and quick that the stimulant would be advisable. At 3. P. M. I called again, and found her very much improved as regards the symptoms. Her pulse was reduced to

136. temperature °105¼ respiration 35. She talked more and seemed to be in general better. But on palpation I found the whole abdominal cavity involved and if anything she was more sensative to the touch. I continued the treatment. At six P.M. I called again the pulse had gone up to 140. Respiration 35 and altogether costal, the abdominal muscles taking no part whatever in the process. Temperature °105 and pain increased exceedingly, caused in part from the fact that vomiting set in, She having had three dejections from the mouth before I arrived. Nothing would remain on her stomach, so that I administered the Morphia and Quinia, Hypodermically, and left her to take the milk and whiskey by the Stomach. I called again at 10.30 P.M.

and on arriving was told she was no better. Pulse was still 140, Respiration 34, Temperature 105¼ had vomited twice since six o'clock, but had kept 3 doses of milk and whiskey on her stomach She complained of pain mostly in the Hypogastric region, so that it lead me to suspect the urine could not be discharged. As I had no catheter I sent to my Preceptor, at the same time requested him to come and consult with me. On introducing the catheter after a great deal of trial to me and patient, the urine flowed in abundance, and it gave her marked relief soon after, although she complained and shrieked with more pain just after catheterizing her than before.
I did not see my patient until the next morning at six o'clock. I called the parents

in the adjoining room and informed them that I thought that the child could not recover The next morning I was called at about six o'clock and responded right away. I found the child in a state of collapse. I at once ordered mustard plasters to be applied all over the body, and assisted at it myself. I also gave Brandy in tablespoonful doses but it did not seem to produce any effect. so acting on a little hint Prof. Chew gave the class before I went home I took my Hypodermic syringe and filled it with brandy and injected it into the arm. This I repeated twice with good results, but only temporary I also gave her Carbonate of Ammonia in grains x doses, also used turpentine on flannel over the abdomen but to no.

avail; for at 8.40 that same morning she died.

Post-Mortem.

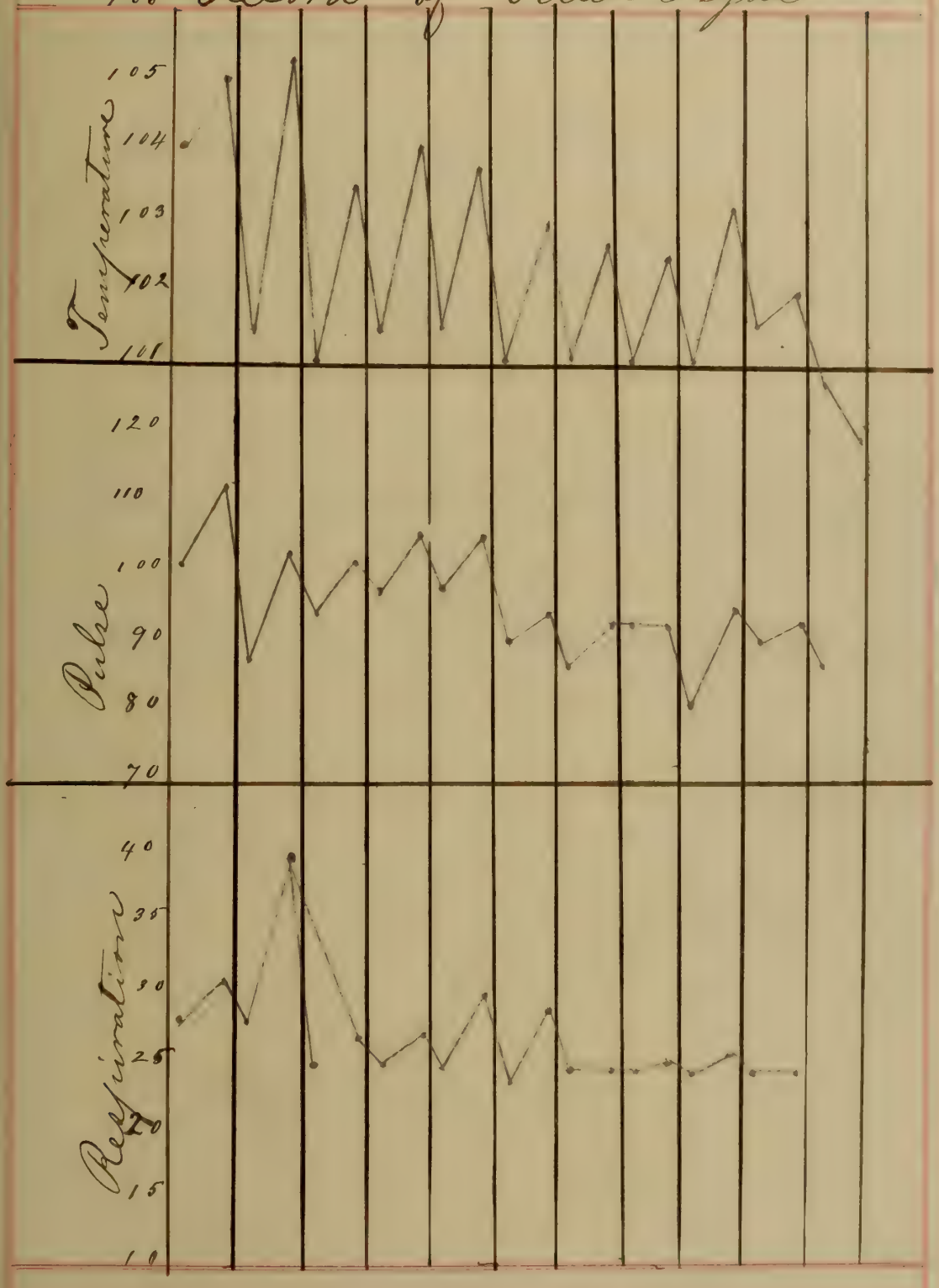
After a good deal of entreaty I was allowed an examination of the body. I found the entire abdominal cavity white with deposits of lymph showing that Peritonitis of a violent character had existed. I searched in vain for Invagination of the bowel, but on taking the gut in my fingers from the stomach to the Rectum I found a round opening about 8 inches from the Caecum in the Ileum. It proved to be an ulcerated Peyer's Patch with perforation. There were 7 other patches in different stages of ulceration, and from this it proved to be a case of walking Typhoid fever. The peculiarity of this case is the abscence of febrile exacerbations.

Pneumonia

C. R. aged 32, admitted Dec 29th has been working down the Bay, oyster dredging, was taken with spitting of blood and shortness of breath about 5 days before being admitted into the Hospital. On questioning he complained of great pain in the left side and had a good deal of fever - never had a chill before until 5 days ago, but has had no return. In making a Physical examination it was found he had dulness on percussion from base of the left Lung to the very apex in front and behind, absence of vesicular murmur, Bronchial respiration and a marked brick-dust expectoration, from which signs along with a pulse of 103 and temperature 104° it was clearly evident that the Diagnosis was Pneumonia of the left Lung.

Was ordered Dover's powder grs v; next morning was ordered Liqu. Ammoniae acetatis ℥ss every 4 hours. The temperature went up to °105¼ that night and he was ordered Liquiae Sulphas grs x; next morning temperature was °101. He felt much better and did not cough as much, the expectoration having become whitish and resolution begun. Jan 3rd continues to improve rapidly, but there is a good deal of dulness from the 7th rib down owing to a pleuritic effusion. Jan 5th & 6th condition very much improved the dulness is disappearing very much in the lower part of the lung, while the vesicular murmur has returned as low down as the 8th rib. He has improved steadily and is to-day Jan 20th walking around the ward appearing fresh and well.

Record of Vital Signs



An Inaugural Dissertation

on

Digestion and its Derangements

Submitted to the Examination

of the

Provost Regents and Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

Thomas C. McCormick

of

Louisiana

Having chosen so fruitful a subject for my Thesis I do not expect to treat any part of it with more than a cursory glance; Happy would I be if I could take one single part of my subject and advance some new ideas on it; but, in the present very primitive state of my knowledge, I shall have to be content with a compilation from the works of others.

"Digestion," to use the language of Professor Dalton, "Is that process by which the food is reduced to a form in which it can be absorbed from the intestinal canal and taken up by the bloodvessels".

And a most wonderful proces it is! Nine tenths of humanity know nor care nothing about the way in which their life is sustained; Some have a dim sort of an idea that they must eat to live; but that is natures teaching for the most ignorant of us feel an indescribable craving and weakness about the stomach if we do not answer natures calls for more fuel to supply the furnace.
Digestion begins in the mouth at the moment of prehension of the food; mastication is the first proces to which it is subjected; during mastication the food is thoroughly incorporated with saliva.

which forms the bolus into a semi solid mass and facilitates deglutition; the saliva also exerts a peculiar chemical action on the starchy ingredients of the food changing the starch into Glucose. This change is only partial, however and does not always take place. The principal function of saliva being to facilitate the passage of the bolus from the mouth through the oesophagus into the stomach, where the great work of digestion begins in earnest. But the saliva exerts considerable influence on the sense of taste; we all know if we put a lump of sugar into the mouth

that we do not appreciate the taste until the saliva begins to dissolve the sugar; and so it is with other hard substances the saliva softens them and aids materially in the taste.

When the aliment reaches the stomach it excites the flow of gastric juice; for that the gastric juice is not always present in the stomach has been shown by the researches of Physiologists, and in the healthy stomach the flow ought only to be excited by the actual presence of food, although the fluid has been caused to flow by the mechanical irritation of a cannula

introduced through a gastric fistula. Why the stomach should be excited to its work by the presence of food is not thoroughly comprehended, but I think can be explained in this way: the nervous system is the first to recognize the presence of the bolus and by some wonderful method, the nerves cause an increased flow of blood to the walls of the stomach and the digestive fluid is secreted from the blood by the gastric follicles.

The gastric juice consists of a free acid, and an albuminoid matter

known as Pepsin, besides water, and a number of the earthy salts held in solution. The following is the composition of Gastric juice according to the best analysis.

Water	975.00
Free Acid	4.78
Pepsin	15.00
Sodium Chloride	1.70
Potassium	1.08
Calcium	0.20
Ammonium	0.65
Lime Phosphate	1.48
Magnesium	0.06
Iron	0.05
	1000.00

But the ingredients of the gastric juice do not exist invariably in the same proportion as given in the foregoing table; they certainly vary very much in diseased conditions and even in health in different individuals.

The most notable physical property of the gastric juice is its acid reaction, by which it is distinguished from all the other digestive fluids. Whether this acid is Lactic or Hydrochloric is still a question. There are a number of Physiologist on each side; which party is right is hard to decide.

The next most important ingredient of the gastric juice is Pepsin, this is a neutral or alkaline substance always found in the stomach. Pepsin will not act alone but requires for its action upon the food the presence of a free acid: Pepsin can be precipitated from solution by heat or alcohol in excess. Alcohol is very destructive to the action of the gastric juice by throwing down its Pepsin in an insoluble state; The vomiting after a debauch is caused by the alcohol having precipitated the pepsin and so rendering the gastric

juice inert; the food remaining in the stomach undigested soon acts as a foreign body and is thrown off by a wise provision of nature.

There is no doubt that a small quantity of spirit increases the appetite and improves digestion by causing an increased flow of gastric juice, but, taken habitually, and in large quantities, it is very hurtful to the system.

Another peculiar property of gastric juice is its power of preventing decomposition. All the other animal secretions putrefy with the greatest

readiness, but the gastric juice when exposed to the air remains for many months without developing any putrefactive odour it will even arrest putrefactive changes when they have already begun in the organic matters. A certain degree of heat is also essential to the proper action of gastric juice; a piece of meat immersed in gastric juice which is below the normal temperature of the body will not show any signs of digestion at the end of an hour; but if the heat be increased to between 98° and 100° the gastric juice will exert its characteristic putrefactive

During active digestion the temperature is thought to be higher than during repose. Thus the temperature of a stomach in repose ranges between 98.° and 100.° during digestion it is increased to about 102.°

The habit of eating ice cream and water ices after meals undoubtedly retards digestion by lowering the temperature of the stomach. The quantity of gastric juice secreted by a healthy man in the twenty four hours has never been determined, nor do I see how more than an approximate estimate can be made; for the food

which is more difficult of digestion requires a larger quantity of the gastric juice to act upon it, then again there are some aliments which excite the stomach to increased action by their stimulating influence. That there is an intimate connection between the mind and digestive abharatus is well shown by the fact that any mental agitation such as anger, joy, or sorrow will enterfere with the abpetite and subsequent digestion. The lop of abpetite which nearly always preceds serious illnep of any kind is a warning from nature not to give the stomach

any more work than is absolutely necessary. The time required for the digestion of a hearty meal varies according to the state of the digestion, and the matter to be digested. If the food is well masticated, moderately digestable, and all things being favorable, it is generally thoroughly digested at the end of three or four hours. The gastric juice is reabsorbed with the digested substance after it has accomplished its work. The reabsorption goes on simultaneously with the secretion; that is, as the food is digested it is carried into the intestine and a certain amount of the gastric

juice flows along with it so that the gastric juice does not accumulate in the stomach. Let us follow the aliment from the stomach into the intestine and see what sort of a change it is subjected to there.

When the food enters the duodenum the fatty and starchy ingredients still remain to be digested, as the gastric juice only possesses the power of digesting the albuminoid matters and converting them into a substance called albumnose. In the duodenum the food is brought in contact with three different secretions the bile, the pancreatic juice, and

the secretions of Brunners duodenal glands.
The pancreas resembles the salivary
glands in its general structure; it secretes
a peculiar juice which is clear and
colorless, of a viscid consistency and
alkaline reaction; it is said to resemble
the uncoagulated white of an egg.
Pancreatine is the name given to the
most important ingredient of the
pancreatic fluid; about one tenth of
the whole secretion is pancreatine.;
It is this substance which gives the
fluid its viscidity; it is coagulated
by heat, by alcohol, by nitric acid, also
by sulphate of Magnesia in excess

it differs from albumen in being coagulable by Sulphate of Magnesia, as albumen is not coagulated by this latter substance The pancreatic juice has the power of transforming starch into sugar, an action which takes place very quickly at the normal temperature of the body. The pancreatic juice also has the power of emulsifying the fats which power is of the greatest importance in the digestion of fats; as the fatty particles are only melted in the stomach, but when the oily portion of the food comes in contact with the pancreatic juice it is emulsified

and converted into a white opaque looking substance which is easily absorbed; this emulsifyed substance is called chyle.
The pancreatic juice is also said to posses to a limited degree the power of slowly dissolving coagulated albuminous matters.
The quantity of pancreatic juice secreted in a day is not known, but most observers agree that it is small in comparison with the secretions from the liver and stomach; Like the gastric juice it is only when its presence is required that the pancreatic juice is secreted.

The intestinal juice is the product of the secretions of two sets of glands Brunners, and Liebekuhns; it has been found a very difficult matter to obtain the secretions of the intestinal glands in a separate state; Brunners glands resemble the pancreas in their minute anatomy, and their secretions are supposed to bear some resemblance to that of the pancreas both in appearance and action.

Liebekuhns follicles are found throughout the whole length of both the small and large intestine, they consist of small straight tubes thick-

set in the mucous membrane, and opening perpendicular to the mucous surface. There must be an immense number of them in the intestinal tract, their secretion forms the largest part of the intestinal juice, nothing definite is known in regard to the quantity of the secretion of Lieberkuhns follicles, but in quality it is a clear colorless, alkaline fluid, possessed with the power of actively transforming starch into sugar In regard to the secretions of the solitary and agminated glands very little is known, they are closed sacks having no visible outlet, they are found

to be filled with a soft, pulpy, semi transparant mass, and are larger during digestion than fasting, what they contain must be regarded as a product of secretion but for what purpose is not thoroughly understood: The solitary glands have been said to give the characteristic odour to the feces. Peyers patches which are made up of solitary glands, bunched together must perform some important function in disease or health, else they would not play so important a part in Typhoid fever.

Having followed as well as we could the alimentary bolus through all its transformations, and seen the way in which digestion takes place from the stomach throughout the entire length of the small intestine; let us see if we can follow the digested material on its way to make blood. All the albuminoid substances are changed into albuminose; the fats are converted into chyle, and the starch is transformed into glucose.

As the liquified mass passes down the intestine it comes in contact with the absorption apparatus of the intestine; this consists of millions of little

villosities which line the whole length of the small intestine and give it that smoothe velvety feeling; these villi are most abundant in the duodenum and jejunum. Each villus is covered with cylindrical epithelium similar to that lining the intestines from the cardiac orifice of the stomach; The villus is penetrated from below by capillary blood vesels supplied from the mesenteric artery; it is also pierced through its center by a lymphatic vesel. The blood vesels are supposed to absorb all the albuminose, glucose and molecular fat and take it through

the portal circulation to the liver.
The lacteals absorb the chyle and take
it through the intestinal lymphatic
system to the receptaculum chyli from
whence it is conveyed through the
thoracic duct to the left subclavian
vein where it enters into the general
circulation. The fat generally disappears
from the blood in its passage through
the lungs, but if the quantity of fat
consumed be large it does not entirely
disappear with the passage of the blood
through the lungs but is found in
the general circulation. This state of
affairs has been found to exist in

the blood after death from Apoplexy occurring after a full meal. It is a condition perfectly consistent with health however and is due to the chyle being absorbed from the intestine faster than it can be appropriated by the different tissues of the body. The lower part of the colon and rectum must possess the power of absorption, else how would suppositories and nutrient enemata act? That they do act is proven beyond a doubt, as persons have been kept alive for weeks with beef tea and other nutritious substances administered by the rectum when the stomach

was unable to digest any thing.
The proces of absorbtion is greatly aided by the peristaltic action of the intestines
The portal circulation conveys all the other products of digestion from the stomach, pancreas, and intestinal tract to the liver. Exactly what are the functions of the liver has not yet been definitely ascertained; We know that certain changes in the products of digestion take place in the liver, but there is less known about the action of that organ than any other important organ pertaining to the body.
The liver is supplied with both

arterial and venous blood at the same time: The Hepatic artery and the Portal vein. The Hepatic artery supplies the walls of the hepatic ducts, those of the portal vein, the capsule of Glisson, and the peritoneal covering of the organ; while the Portal vein ramifies in the glandular parenchyma of the organ. The Hepatic artery evidently supplies the blood for the nutrition of the liver, and the portal vein must carry the products of digestion for the liver to work on.

The — bile which is the product of secretion of the liver, differs from the other products of glandular secretion in

not containing any albuminous ingredient similar to those of the salivary glands, pancreas, or intestine.

Bile is made up of nitrogenous crystallizable substances and coloring matter.

The bile as it flows from the gall bladder is a clear ropy fluid of a neutral reaction; the specific gravity is said to be about that of healthy urine, varying from 1018 to 1024. It is of a yellowish-bronze green color; the color may be changed by oxidizing agents; By transmitted light the bile has a variety of colors.

The two most important ingredients of bile are Glycocholate of soda and

Tauocholate of Soda; they are produced in the substance of the liver; bile is constantly being secreted by the liver but the secretion is more abundant a few hours after meals than at any other time. Bile must be regarded as a secretion having several purposes to fulfil, first as an excretion, second as a secretion containing elements for reabsorption thirdly as a secretion affording assistance in the digestive process. It is the coloring matter of the bile that is excreted There is nothing to show that the bile exerts any digestive influence upon the various ingredients of the food.

It is thought that the bile acts as a stimulus to the glandular follicles of the intestines; I should not wonder if there was some truth in this belief: it is also thought to facilitate the absorption of fat by the lacteals but I do not exactly see how this can be. By far the largest part of the bile is reabsorbed and carried back to the liver through the portal circulation, there to be reformed and begin its mysterious round again; the bile does not reach the liver in the same state as that in which it left through the gall bladder, in fact it is bile no longer as it cannot be recognized in the portal blood by any

of the biliary tests, it must therefore preform some duty in the intestine that changes its entire nature.

As all the products of digestion except the emulsifyed fats pass through the liver before they reach the general circulation, the liver must preform some very important part in the economy of the body; but exactly what are these functions remains for some one to discover.

Although a great deal of time and learning has been devoted to the subject of intestinal disorders; there is often considerable difficulty experienced in diagnosing gastric disorders; When there

is no actual tumour to be felt we can not feel the walls of the stomach like we can an enlarged liver or spleen. nor can auscultation and percussion be relied on, as the intestines are within certain limits moveable, and one might think he was auscultating the stomach when it would be the colon or some other part of the intestine.

Having seen how the process of digestion takes place we ought to be able the more fully to appreciate any deviation from a healthy and easy process; for healthy digestion takes place without giving any sign of the work that is

progeping; it is only when there is any thing out of order with our digestive apparatus that we are made aware that such a proces as digestion is going on within us. There can be little doubt but that the maindenance of the integrity of the digestive organs is the best prophylactic measure against disease What a terrible fix is a person in, if he lose the powr of assimilating food: all the rest of his body may be strong and healthy; but if he cant digest he must gradually wither and die. Until within a few years all medicines as well as aliments had to be given by

the mouth or rectum, but now thanks to the hypodermic syringe patients can frequently be medicated without the aid of the stomach.

Let us look to some of the predisposing causes to disordered digestion; first is excessive mental occupation with sedentary habits; then if a person is morose and cross, eats all his meals alone and is very particular what he eats his digestion will not be so good as that of the man who is always eating with his friends and laughs and talks during his meal showing that it is good for the digestion to be in a cheerful humour.

about meal times; the habit of eating meals in a hurry and rushing off to work after the meal is swallowed is very bad, the food is not well masticated but is bolted down and remains in the stomach for a long time before it is fully dissolved by the gastric juice, this is very often the cause of the heaviness felt by some people in the epigastric region so long after meals.

The tendency to indigestion seems to be inherited in some people; whether this is due to the child growing up and following the same path in life as the parent, I am unable to say.

Want of sleep predisposes to indigestion by the brain and body not obtaining the rest which is requisite; change in the weather such as excessive heat; moral depression, great sorrow. I might go on ad infinitum reciting causes for indigestion. Generally the first sign experienced by the party suffering from an acute attack of indigestion is violent pain in some region of the abdomen; but in the slow and insidious approach of dyspepsia there is generally no great pain felt at first, but there is a feeling of uneasiness which makes the sufferer feevish and cross and a

this feeling gradually goes on from bad to worse, if the sufferer does not obtain some relief life becomes a burden. Very often when called to see a patient with some gastric trouble the Physician is unable to make out any definite cause for the derangement so he sets it down under the general head of dyspepsia. What is dyspepsia? Dr Tanner says "any thing which interferes with the healthy action of the stomach and intestines may give rise to dyspepsia." This seems to me to call all diseases of the digestive apparatus dyspepsia which will do well enough when we can't do better

but I hope to see the term dyspepsia much simplified some of these days. The stomach must have great resisting and recuperative powers. There are several instances on record where the most indigestable things have been taken into the stomach; One instance is that of a sailor swallowing a number of pocket knives; he swallowed four at his first trial; within a few days he raised three of them, the fourth one he never saw nor did it cause him any inconvenience. A few years after this when he was on a spree with a number of comrades he swallowed six more knives, but this

time he did not get off so easily for he was taken with vomiting and severe pain in the stomach, but he finally got rid of these also; but not content with having satisfactorily proved that he had the stomach of an ostrich he again repeated the knife eating feat and this time paid dearly for his temerity, as he became a confirmed invalid; and after lingering for some time died in a miserable condition. At the post mortem several portions of the blades, springs, and handles were found in the stomach very much corroded. This is a very exceptional case but it

sufficiently illustrates the fact that the stomach posesses great recuherative powers. Every one has at some time in their life given their stomach a great deal more work to do than was necessary and a large number habitually over work their stomach and by so doing lay up a store of indigestion and misery for themselves in after years.

Costiveness and constipation are not generally looked upon by unprofesional people as a disease still it is a disease and ought to be regarded as a disorder of the whole system and not of the intestinal tract alone. It is true some people

do not have an action from the bowels more than once a week and to all appearances are perfectly healthy but I can not help thinking that there is something wrong with their system. It seemes natural enough that old people should not have as many actions from the bowels as people that are young and active, because there is not so much waste about their body nor do they generally consume as much food as young people.

Amputation of Fore-arm

Patrick Connor – age 28 Residence City is a laborer and was admitted on Tuesday June 20th 1876 with swollen hand. About six months previous he had been playing with a fellow-man and the latter pushed him over on his wrist bruising it severely from which a synovitis set in. This subsided to a certain extent, and upon examination it was found he had caries of all the bones of the Carpus. The treatment consisted in extention for a while until synovitis subsided, after this the hand was put up in adhesive plaster and extention applied. The joint became more diseased and it was finally amputated by Prof. C. Johnston on Nov 28th. The operation was of the flap Kind making an

anterior and posterior. That night his temperature went up to °104 and it continued to remain up to °103 and 4 for 10 or 12 days. In the mean time signs of Phthisis developed itself and large cavities were found in both Lungs. So rapid did this complication go on that he was reduced to skin and bone in a fort-night. He was given when first admitted Tr. Ferri Chloride gtts xx ter die; after the operation was given Quinia Sulph. grs. x bisindies, with Dover's Powder grs x night, also took milk and towards the last was ordered Spts. Frumenti ℥ß every two hours. As he had marked Bronchitis he was given syrup of Squill & Cod-liver oil which improved him. The stump healed up by first intention, but owing to the

complications he finally died Dec 18.

Phosphorus Poisoning

On the 20th of June I was called in great haste to see two little girls, Ruth and Letitia Snyder by name respectively residing at 287 W. Lombard St. The Mother had just returned from Market and was preparing her toilet when the youngest first began to complain. They were 4 and 7 years old respectively. The first symptoms were noticed on the youngest one, Ruth, who complained of a bitter taste in her mouth and burning of her throught and in a few minutes the other complainid likewise but this was not thought to be any thing

serious. In ten or fifteen minutes after this Ruth fell over in a violent convultion and the mother sent for 4 different Physicians all of whom were not home when finally after the lapse of an hour and a half she sent for me. I found, on arriving, the children both in convultions and on ingniry learned they had eaten a large amount of a compound of Phosphorus which the mother had prepared in syrup and placed it in the cup-board The children had mistaken it for the latter alone. I, at once, ordered an emetic of mustard and warm water for both. Lettia vomited once, but the other did not, she dying with the most violent convulsions I have ever seen

20 minutes after I arrived. My whole attention was now directed to the other one. I put her in a warm hip-bath for about 15 minutes, and it seemed to convert the continued convulsions into a slight twitching of the muscles. In the mean time I sent for the following. Oleum Teribinthinæ ʒij Pulv. Acacia ʒfs Aqua ʒiiifs. Sig. ʒj every 15 minutes until eight doses were taken. I also gave the white of egg at once to sooth the inflamed and cauterized coats of the stomach but to no avail. In a short time after the removal from the hip-bath she sank into the terrific spasms again and I then resorted to the inhalation of Chloroform which allayed the spasms for a while, but she finally died 45 minutes

after I had entered the house.
Their mouths were cauterized from the caustic action of the poison. The older of the two vomited large shreds of mucous membrane which either came from the mouth or stomach The symptoms appeared in these cases about an hour after taking the fatal dose.

Fracture of the Thigh

F. W. age 28 a seaman, fell on the ice while walking to the Ship and on rising to the ground, found he could not walk, but did not experience any pain. He crawled to the Ship on his hands and abdomen that night and the next day December 25th was brought to the Hospital After a little examination he was found

to have a fracture of the right femur in the upper part of the middle third. There was great deformity, crepitus and inability to stand, along with pain on every movement of the limb. The limb was put in N. R. Smith's anterior Splint and extention applied. The treatment consisted in this alone and perfect quiescence for six weeks.
He is now, seven weeks latter, walking about the Ward with one crutch and the limb is only one half an inch shorter than his other one. He complains of a little stiffness about the knee joint, otherwise he is perfectly well. His general condition has not been impaired at any time.

Acute Tubal Nephritis

G. R. age 32 was admitted into the Hosp. ital on Oct 31st 1876 with severe chills & fever. He complained of great pain in the loins and in examining the urine it was found to be heavily loaded with albumen. He was at once ordered Quinia Sulph. grs) xv, his feet and abdomen but most markedly his face right under the eyes were oedematous and swollen, his pulse was 124 and respiration very rapid. Next day he was not better and was ordered Potass. Bitartrate ʒj Pulv. Cubebs ʒj Aqua Oj Sig to be taken as a drink in molasses, also was ordered Spts Aetheris Nitrosi ʒij Syrupus Scillae ʒfs Tr. Ferri Chloride ʒij Sig ʒj ter die.

Under this treatment he improved rapidly, the swelling in his face decreased first, he was kept in bed and continued to take this treatment. His urine was examined from time to time with heat and nitric acid, and the presence of albumen gradually diminished. It was also examined by the microscope and epithelial casts were found in abundance. He had been subjected to working in the water and was compelled to sleep in his wet cloths, he had also been suffering with intermittent fever for six weeks before. He was ordered House Tonic and his urine was examined this day Feb 18th and the epithelial casts

were few in number and hardly
perceptable. He has gradually improved
and will leave the Hospital this
week.

Thesis on
Acute Croupal Pneumonitis
by
B. Franklin Whiteside
Class 76 - 77

Acute Croupal Pneumonitis

Definition. Inflamation of lung substance.

Anatomical characters. The first noticeable change is that of engorgement, due to an increased quantity of blood in the organ, which gives it additional weight. Externally it is of a dark red color, slightly pits on pressure, and crepitates less than when normal. On section, a quantity of red frothy serum is observed to flow. This hyperaemia does not prevent the air from entering the air sacs, and from the first a little albuminous liquid is effused into them. A portion of lung thrown in water will still

float; but exudation speedily follows, which indicates the commencement of second stage - that of red hepatization. The exuded matter soon coagulates, greatly distending the air cells, and thus preventing the passage of air inwards. The increased weight in this stage, is due to the exudation, which consists of epithelial cells, and solid material withdrawn from the blood. Its spongy character and crepitation is lost; it will not float in water. A cut surface has an appearance like that of the liver, and a quantity of frothy fluid can be pressed out, but less than in first stage. The substance of the lung is

softened and readily breaks down under pressure. If the disease pursue a favorable course, the exudation is removed principally by absorption and in some cases with great rapidity. After its removal the functional capacity of the organ seems to be fully restored. But if the course be unfavorable, the morbid material is not removed from the air sacs, and there is infiltration of fibrine and pus, constituting the third stage of the disease - that of gray hepitization. The lung is still impervious to air; it is more friable, and can be easily reduced to a pulp by the slightest pressure. On

section, there will be an abundant oozing of purifom matter. Sometimes a collection of pus takes place forming abscesses; but acute inflamations of this organ, are not so liable to be followed by abscess, as when it affects other parenchymatous tissues. Gangene sometimes result, but it is extremely rare. A large portion may be involved, or it may be more limited. The part involved is of a greenish brown color; of a soft consistence; emitting a very offensive and characteristic odor. In a large majority of cases there exists a more or less circumscribed pleuritis, with an exudation of lymph.

The pleuritis is apt to be dry; still we meet with cases in which there is a quantity of fluid effused into the pleural sac. Bronchitis is a constant accompaniment. The lining membrane is congested, swollen and softened; and more or less of the inflamatory products are found in the affected tubes.

Symptoms. Pain, fever, generally preceded by chilliness, pulse accelerated, breathing hurried and oppressed, cough, expectoration, headache, and in some cases nausea and vomiting. The pain in this disease is due to the coexisting pleuritis, and may be experienced at any portion of the

chest; but its most frequent seat is near the nipple. It is most severe at the beginning, gradually diminishing in intensity, and finally ceasing before the disease has run its course. Pressure and all acts requiring a movement of the chest, aggravate it. The decubitus is dorsal, to allow free expansion of the lungs. The dyspnea may be slight or intense. It is mostly due to the existing bronchitis, and is generally in proportion to the extent and severity of the inflamation. Delirium occurs in some cases. The cough, though not peculiar, is at first dry, and is soon followed by an expectoration of a slightly viscid mucous, which becomes more

abundant, and of a rust color about second or third day, from the admixture of blood. It is characteristic of the disease. It is very tenacious and if the disease progress favorably, it soon looses its tenacity and tawny color. If the advance be not towards resolution, we have the purulent expectoration, which is an unfavorable symptom. The amount of fibrine is greatly increased. It is found in larger quantities in this than any other disease, except acute rheumatism. The secretions are scanty. On examination of the urine we find it to be deficient in the chlorides, which reappear upon the removal of the exudation.

Physical signs. In the first stage we

have slight dulness on percussion, and the fine crepitant rale, as revealed by auscultation. It is usually a moist sound, though said to be dry, and is due to the seperation of the agglutinated cells walls, or the bursting of air bubbles in the liquid. If this crackling predominates, the vesicular murmur is hushed; and when the dulness becomes well marked, this gives way, and we have Bronchial respiration, Bronchophony, and increased vocal fremitus. This marks the second stage, and if it now terminates by resolution, we have returning crepitation. which is coarser than in advancing pneumonia. If the disease advance to the third stage, the dulness is

marked, and we have coarse mucous rales
The duration of the disease is variable.
In some cases convalescence is established as early as the sixth or eighth day, others are more protracted. In most cases only one lobe is involved; the lower lobe of right lung being its most frequent seat.

Causation. Cold, either partially or suddenly applied, is the most frequent cause. Statistics show that the larger number of cases occur during the winter, and spring months. It may also be produced traumatically. It comes on in some cases of eruptive fevers; especially typhoid.

Cases are reported in which it came

or in the course of degenerative disease of the kidneys.

Diagnosis. This disease is liable to be mistaken for pleuritis and Bronchitis, but by a correct appreciation of the symptoms and physical signs, we will be able to clear up the diagnosis. From pleuritis, by absence of sharp pain in side, by fine crepitation, rusty sputa, and by the line of dullness remaining the same upon a change of position. From Bronchitis, by the absence of sibilant and sonorous rhonchus, and by fine crepitation, rusty sputa, &c.

Prognosis. This depends upon the condition of the patient, complications

and the extent of lung involved.
When only one lobe or even an entire lung is involved, if occurring in young and robust persons with proper management, ought always to end in recovery. If it occurs in children or very old people, it is a serious disease. The double form is dangerous at all periods of life.

Treatment. As this disease is believed to be more of an asthenic nature than formerly, the remedies which were so much in vogue, have now fallen almost entirely into disuse.

In some acute cases, where the right side of the heart is distended from an overaccumulation of blood, due

to an obstruction to its passage through the lungs, giving rise to great dyspnœa, congestion of the veins of the neck, and more or less darkly flushed face; we should without hesitation, draw a few ounces of blood from the arm, and relieve the distended heart and sufferings of the patient. It is better in acute cases, if the patient be robust, to draw a few ounces of blood, than have it poured out in the lungs (Prof McSherry) You may then follow this with stimulant doses of opium, which seems to act beneficially in three ways; first, by preventing to a certain extent the depression which follows bleeding; secondly, by allaying

pain; thirdly, by arresting to some extent the tendency to exudations.
In those cases where active blood letting is not admissible, and there is considerable pain, marked relief will be obtained from the use of dry cups.
In a majority of cases, the same end can be obtained by the use of saline laxatives and sedatives. If the skin is dry and pulse frequent, small doses of tartar emetic will be useful; or you may give three or four drops of the tincture of aconite with half an ounce of Spiritus mindereri, repeated every four or five hours. If fever is high, Quinine in decided doses (grs ten to twenty) will break it up; and after it has a-

bated, you may continue it in tonic doses. In the second stage all depressing measures should be avoided. If the bowels are inclined to be costive you should give occasional doses of castor oil. The most essential part of the treatment in this stage, are supporting measures, - in fact the supporting treatment should be instituted from the first. These include tonics, stimulants, and nutritious diet. I have already spoken of the use of Quinine in this disease; and various other tonics may be useful. If the pulse is feeble, frequent, and easily compressed, we should give stimulants. Where there is not much prostration, wine will

answer every purpose in the quantities of half an ounce, repeated at intervals; but when we want decided stimulation we should give brandy, two ounces or more in the twenty four hours; or if the exudation is slowly removed, ammonia and ipecac will increase the rapidity of its absorption. Counter irritation either by sinapisms or blisters, assist in its removal, and should be used. The diet is very important in this stage. It should be wholly nutritious, and given at regular intervals. Milk, farinaceous substances, and broths, are among the principle articles, still you may be guided to some extent by the desires of the patient.

The treatment of third stage is strictly supporting. Pain in any stage calls for an anodyne.

Thesis

On

Pneumonia,

Submitted to the Examining

of the

Provost, Regents, and Faculty

of Physic, of the

University of Maryland,

For the degree

of

Doctor of Medicine

by

Luther B. Hunley,

of

Virginia.

A. D. 1877

Pneumonia.

In an inflammation of the substance of the lung.

Varieties; - According to its seat; - Single, double, lobular, According to Causation, idiopathic, from Cold and wet, traumatic, from injury, tuberculous in phthisis, And typhoid pneumonia,

Symptoms; The disease is commonly ushered in by restlessness with General febrile disturbance,

At the end of from one to three days, there are rigors, soon followed by Neausea, Cough, pain in the side distressed breathing,

A pulse reaching to 125 to 175
beats in the minute, burning heat
of skin, thirst, loss of appetite,
prostration, headache, and some
times transient delirium,
Stages, Each stage of pneumonia
may be said to consist of three
degrees or stages, the first stage
is that of Congestion, of the pul-
monary membrain, with dyspnea,
This stage is called the stage of
engorgement,
The second stage is the time
when the affected lobe or greater
part of it, has become solidified by
the inflammatory exudation,

This stage is called the stage of solidification, or hepatization,
In the third stage the affected lobe is in one, or, two conditions, if the disease pursue a favorable course, the third stage begins when it is evident that absorption of the exuded matter is going on, and convalescence takes place, during this period, This may be called the stage of Convalescence or resolution,
if the disease pursue an unfavorable course, the third stage is one of suffusion or purulent infiltration, and this stage may be called the purulent or infiltration

stage, If this stage occur, the disease generally ends fatally,

In each stage there is speaking summarily, fever, the temperature rising towards the end of the first day to 101° or even 102.5° and gradually increasing untill the fifth or sixth day, when it will probably be as high as 105° Fank,-

Next we have more or less pain in some part of the Chest, most severe at the Commencement- together with accelerated and sphïssed breathing,

There is great depression, with occa=tional delirium, an then we

find a very distressing cough with expectoration of a viscid and rust colord sputa, which unite into a mass so tenacious that even inversion of the vessel in which it is contained will not detach a particle of it; if these sputa be minutely examined they will be found to consist of mucus, epithelium, exudation matter, blood cells, and oil globules; The presence of sugar may some times be detect=ed by Tromer's test, while there is also an excess of chloride of sodium and as the blood contains an undue amount of fibrin, coagular may

form in the right side of the heart, & in the pulmonary arteries, and give rise to urgent dyspnoea, or even sudden death,

In the first stage, or that of ingorgement, is that in which the air cells of the affected part of the lung becomes loaded with serium or blood and serium, The inflamed portion of the lung is of a dark red color externally and on cutting in-to it, a quanity of dark red and frothy looking serium escapes, while its appearance somewhat resembles the spleen, its elacticity, and sponginess being diminished, If the chest be lissened to when the

lung is in this Condition, one will hear very fine Crepitation, a sound which is known as Minute Crepitation or Crepitant ronchus, If a lock of one's own hair be rubed between the fingers and thumb Close to the ear, a sound will be produced nearly resembling it,

The Natural respiratory or Vesicular Murmur is still heard mingled with this Minute Crepitation, Especially at the beginning; as the inflam= =mation advances, however the healthy sound is nearly displaced or quite displaced by the morbid one, Percussion, also at first affords

almost, as nearly the natural re-
-sonance,, Gradually this becomes de-
-cidedly obscure, Nay if the inflam-
-mation proceed it passes in to the
Second stage, or that of hepatization,
in which the spongy Character of the
lung is quite lost, and the texture
becomes hard and solid, resembling the
cut surface of the liver, when it is
said to be hepatized, if now we
practice Auscultation, neither the
minute Crepitation, nor the vesicular
murmur will any longer be heard,
Bronchophony however often exists
more particularly if the inflammation
be seated near the upper part of

in the vecinity of the root of the lung.
And it is accompanied also by bron=
-chial breathing, these sounds being con=
-ducted by the solidified lung,
The resonance on percussion is dull
over the whole of the affected part,
Advancing still further, we now
have the third stage of Pneumonia,
or that of resolution, or purulent
infiltration, which consists of diffused
suppuration of the pulmonary tissue,
parts of the lung remaining dense
and impermable to the air,
In many instances there is no
true suppuration, the appearance of
such a condition being similated by

liquified exudation matter, circumscribed abscess is very uncommon, but dif=
=fused suppuration is said to be a fre=
=quent consequence of inflammation of the pulmonary tissue, There is no physical signs by which this stage can be diagnosed, until part of the lung breakes down and the pus is expectorated, large gurgling crepitation will then be heard, Should the inflam=
=mation subside before the stage of purulent infiltration, as it portu=
=nately does, then the febrile distur=
=bence begins to decrease, the temp=
=erature drops towards the normal standard, the cough becomes less

irritable, and the general distress
millitgates. Still the frequency of the
pulse, and the hurried breathing
Continues until the lung begins
to loose its solidity, The hepatized
Condition may remain,
permanant though as a rule it
will gradually pass away,
In the latter case, we will find the
air the slowly re-entering the
lung, as will be indicated by a
return of the Crepitation,
Ringled with, and subsequently
superceded by the healthy vesicular
murmur, If the Urine be examined,
as the disease begins to advance

there will be found to be, a gradual diminution of the Chloride of Sodium, and when the lung becomes completely solidified, there will be a total absence of all the Chlorides.
There is reason to believe that the absence of the Chloride of Sodium, from the Urine during the stage of hepatization depends upon the determination of this salt to the inflammed lung, and that when resolution occurs, this force of attraction ceases, and whatever salt has been retained in the lung is reabsorbed, and ap=pears again in the Urine,
The deficiency of the Chloride of Sodium

is not peculiar to, pneumonia, Nor,
Acute inflammations generally,
It is thought that the deficiency of
the Chloride of Sodium, is due to the
loss of appetite, and the tasteless
diet of the patient,
Very often depraved Constitutions, as
well as when the Constitution is con-
-taminated with Syphilis, Acute
inflammation of the lung terminates
in diffused or in Circumscribed
Gangrene, Sphacelation may also
arise from other conditions than
pneumonia, as, for example, from
tubercle, Cancer, hemorhage, the
presence of Morbid poison in the

blood, and disease of the brain, causing permitted inernation of the lungs, It occationally occurs in children after eruptive fevers,
The Chacteristic symptoms of such an occurence, are an intolerable state of the breath, resembling the odor which proceeds from external gan=
=grenous parts, to gether with dysp=
=noea, and very great prostration,
The physical signs are those of softening, and excavation of the pulmonary tissue,
The disease is usually more extensive and progresses more rappidly in diffused, than in circumscribed gangrene

Unless the mortified part be very small death will in most cases result, In very old age, and in some forms of insanity, an attack of pneumonia, sometimes runs its whole course, and results in death, before its presence has been suspected, Chronic pneumonia, or, as it is called by some phthisis, may occur as a sequence of the acute disease, or it can be set up by irritation of the gummata in advanced stages of Syphilis, However produced, it soon on then gives rise to persistant Consolidation of a portion of the lung, Slight hemoptysis some

times occurs, accompanied with
fenerishness, night sweats, emaciation,
Cough, pallor, a sense of oppression
with in the chest, and loss of appe=
=tite, Iodide of potassium, and bark
or Iodide of iron, or Ammonia with
bark, and Cod-liver oil or Glycerine
And good diet, Are the remedies to
be trusted to,
Pathology, it seems certain that
the disease essentially Consists of
An Exudation, into the air sacks
themselves, There is no interstitial
tissue inflammation, as was once
taught, by the older writers,
because there is no ...

Connective tissue between the air
cells to get inflammed, The matter
formed are from the vessels in the
walls of the air sacks Consists of
Serum, lymph and subsequently
of purulent fluid, At the same
time that the cell Cavities get filled,
the thin fibrous structure of their
walls. doubtless becomes infiltrated
with Exudation matter,
The Exudation in pneumonia is
generally supposed to come from
the blood Circulating in the branches
of the pulmonary Arteries,
Cause of Pneumonia, No period of
life is exempt from it, as a rule

it does not often occur under five years of age, it is most frequent between fifteen, and forty, Pneumonia occurs more often in men than in women, Persons employed out doors are more apt to have it, than those employed within doors, Tho' frequently the attack is attributed to some unusual exposure, such as sleeping out doors, or working in the cold and wet, Pneumonia sometimes occurs as a complication of other diseases, It is frequently developed in the course of Typhus, and Typhoid, fevers, and Rubeola, It most generally occurs during the winter and Spring months

in the Northern States. Cases are more numerous in the spring, while in the Southern States they are most apt to occur in the winter,
In this Country, the disease occurs in the Middle and Southern States, much oftener than, in the Northern States, Most Cases of Pneumonia, are developed spontaniously, and is not reffrable to any obvious Causation or agency, The disease is often produced traumatically, by injuries inflicted, on the Chest, and thus produced, the inflammation rarely extends beyond a lobe, And may extend only over a part of a lobe,

Pneumonia, may affect one or both lungs, or, technically speaking it may be double or single, The right lung suffers more often than the left; about one in eight cases both are affected, The lower lobes are more obnoxious to inflammation than the upper, The average duration of the disease is about fifteen days, when un-complicated, if complicated, not less than twenty, Mild cases are often Convalescent on the ninth day, In fatal instances death occurs, between the sixth, and twentieth days

Pneumonia without a degree of bronchi-tis seldom exists, It may happen with

or without pleurisy, If Pneumonia forms the chief disease, the double affection is called, Pleuro-Pneumonia, While when the pleurisy predominates the disease is then called pneumo-pleuritis,

Treatment, Each stage of pneumonia presents, different indications for treat-ment, measures which were once con-sidered as abortive, are now generally abandoned, The objects of treatment, then in the first stage, are to diminish the intensity of the inflammation, to relieve symptoms, and place the system, in a condition to tolerate the disease,

Blood-letting may be employed, ~~to~~ as a palliative, and to some extent, as

A Curative Measure, The Circumstances
which admit of its employment, Are,
high febrile Movement, the pulse more
or less resisting Compression, and a con-
dition of plethora, if at least robust
Constitution, It should not be employed,
when the febrile Movement are not
marked, whe. the pulse is frequent and
weak, and the patient is Anaemic
or have a feeble Constitution,
In Most Cases, in which bloodletting would
be admissible, provided the same ends
could not be accomplished, by other means
the latter are to be preferred, These Consists
of depletion by saline purgatives, and
Sedative remedies, After the operation

of a saline purgative, if the skin be hot; and the first frequent, tartar-emetic or some Antimonial preparation, may be given, as a nauseant sedative, the dose should not be large enough to produce marked or distressed Nausea, Veratrum Viride is sometimes used for the same purpose, These remedies should not be used if the patient's symptoms are mild, and should not be used, when feebleness exists, Opium should be given in the first stage, in doses sufficient to relieve pain, Blisters should not be used, Dry cups, Epispasms, or stimulating liniments, may be employed, It is the Custom in the Baltimore Infirmary, to cover the chest with

an Oiled silk jacket, This keeps the surface moist with perspiration. And a flannel Covering is also used, which gives all the advantages of a poultice, If pain and soreness Continue, turpentine stupes are applied, Opium is usefull in the second stage, as well, as, the first,
It is indicated by a Continuance of pain, restlessness and symptoms denoting Constitutional disturbance,
An Accumulation of Mucus in the bronchial tubes, Contraindicate the use of opium, in full doses.
Remedies to promote expectoration are not generally indicated, As the exuded matter is not expectorated,

The Expectoration in the second stage
of this disease is due to bronchitis,
Sedative remedies, such as Aconite,
Veratrum Viride, may be given in this
stage, if there be high febrile movements
without a tendency to asthenia,
To support the powers of life is the leading
indication in the second stage, Moderate quan-
-tities of wine or brandy, somewhat in accor-
-dance with the patients usual habits, may
be prescribed, as soon as there are any
signs of failing strength, than can be safely
borne, Where the Crisis occurs by sweating
or by diarrhoea, Care Must be taken not
to check it unnecessarily; while during
convalescence, Milk and Cream, raw eggs

Animal food, and food with wine may be allowed, with discretion, Few tonics are more usefull than Ammonia and bark followed by Quinine and iron, with Cod=liver oil, In some severe cases the only question is how to keep the powers of life up, untill the Exudation matter is absorbed, Under thes Circumstances, brandy is in valuable, And it should be freely given, even to the extent of half an ounce every two hours, in milk, or water beef tea, for some days, Should the inflamma=tion end in gangreene, Stimulant and tonics are then Especially required, When the odour of the breath is offencive, A solution of Chlorinated soda, or some other disinfectant

may be prescribed, The inhalation of Spray Medicated with, Creasote or. Carbolic acid, is useful,

Wine and Nourishment in as large quantities as can be assimilated by the weakened digestive organs will be required,

A

Treatise on Croup.

By

James K. H. Jacobs.

of the

University of Maryland.

session of

1876 & 1877.—

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Treatise on Croup.

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Croup.

Definition — This is a word of Scottish origin, used to express that condition of the larynx in which there is inflammation accompanied by thickening of the mucous membrane and the formation of ~~of~~ a pseudo membrane upon it, sometimes extending in an almost continuous sheet from the pharynx into the bronchial tubes, indicated by a prodromic stage, characteristic cough and hoarseness, and the expectoration of false membrane.

Etiology — Dr. Frances Home was, I believe, the first to observe and note the differential points of diagnosis between this and other disorders of the throat and chest. It is a disease peculiar to childhood, occurring less frequently during the period of

teething and after the second dentition, making the period of the greatest predisposition between the second and seventh years.

This disease is usually idiopathic, though it may supervene upon measles or complicate Scarlet fever. Some children appear predisposed to it, indeed it appears to be hereditary in some families.

The exciting causes are sometimes hard to account for, though a North or North Easterly wind, irritating vapors, improper clothing, and a sudden change from a warm dry atmosphere into a cold raw one, appear to be the most frequent causes. Though it is less frequent occurrence in tolerably protected places. ~~The most common~~

The most remarkable phenomena of this disease is the formation of false membrane, accounted for by Dr. Copeland as follows: "that the mucous membrane is itself the seat of the inflammation of croup, and that its vessels exude the albuminous or characteristic discharge, which from its plasticity, and the effects of temperature, and the continued passage of air over it, becomes converted into a pseudo membrane".

Pathological appearances

The affected mucous membrane is more or less reddened, partially by ecchymosis and partly through injection.

In some cases the inflammatory action extends into the sub-mucous

connective tissue causing infiltration and oedema. The mucous membrane is thickened, and there is a rapid desquamation of its epithelial cells, and an abundant production of muco-pus. The occasional pallor of the mucous membrane after death, is attributed by Niemeyer to the number of elastic fibres found in its tissues. In all except the mildest cases, the inflammation extends farther than the larynx. Of 19 cases observed by Dr. Meigs of Philadelphia, in all but three the membrane extended into the pharynx. It also sometimes extends into the trachea and bronchial tubes. Occasionally there is so much

thickening of the mucous membrane, and sub-mucous infiltration that this alone endangers life. Microscopically [illegible] (says Niemeyer) "of amorphous or finely fibrilated fibrine, in which numerous young cells have been entangled during the process of its excretion."

Symptoms & course

As a rule, the prodromata give us warning. In a day or two before the attack, the child is unwell, goes moping about and is feverish, taking but little interest in things which ordinarily amuse it, is thirsty and feverish. There may or may not be coryza, and in some cases laryngitis is present from the first. But

there are other symptoms which distinguish this from any other disease. Prominent among them is the cough and hoarseness. Indeed one may often diagnose the case before other symptoms are present, so characteristic are these. The cough is hoarse, dry and suppressed, and increases gradually. The above symptoms almost invariably precede the attack though they may be more or less marked. The cough may cease near the close of the attack but the hoarseness continues throughout and for several days after. When patches of membrane are seen upon the fauces, there is no longer any doubt as to the character of the disease, provided we can put all doubt as to its being diphtheria aside.

Now this is by no means always so easy, but regarding the two as distinct diseases, it seems to me that when we know the disease to have begun in the larynx, and there are no symptoms of rarification of air in the lungs, with expectoration of false membrane, and the characteristic cough and hoarseness of Croup, that we should, as a rule, certainly pronounce it to be croup. when the patient is to recover, the membrane is thrown off by the throwing out of an exudation beneath the false membrane. The pulsations rapidly increase and the patient goes on to recovery. In unfavorable cases, the membrane is rapidly spreading, and the patient becomes worse. A piece of the membrane may block up the air passage, and cause death by suffocation. When the child becomes cyanotic, and there is a sinking of the epigastrium during attempted

inspiration owing to rarefaction of air in the chest the case is a most urgent one. Indeed I know of no disease which requires more prompt measures from the first, than croup. In primary croup the pulse at the commencement raises to 110 – 120 per minute. In the course of the disease it becomes more frequent, and toward the close of life is feeble. In some cases there is every reason to believe the patient is recovering when a relapse carries him off, or he is suffocated by detached membrane.

Indeed, the appearance of a child in croup is most pitiable, it throws itself about, clutches at its throat, and insists upon being moved from one place to another, is restless and frightened, and in short presents all the symptoms of one who is suffocating.

Diagnosis In speaking of the symptoms of croup, I spoke of

those peculiar to true croup, and shall now only mention those points of differential diagnosis between this and other forms, and thereby distinguish it from diphtheria, which in difficult cases may enable us to comprehend the character of the disease. Now the first being says Prof. Howard, "When you are called on to see a child with croup, ask if it ever had it before, and if it has, it is almost sure not to be true croup." It is most likely to be confounded with spasmodic laryngitis, But while true Croup begins with symptoms at first slight, progresses slowly but with that terrible steadiness which sets all our efforts to check it at defiance false croup, though it may be preceded by coryza begins abruptly, and at night, between 10 & 12 O'clock. The symptoms of false croup have their maximum intensity from the first, the cough is loud and sonorous, while in true croup it is hoarse

and rough from false membrane. The voice in false croup is natural, or nearly so between the paroxysms, while in true croup it is husky and rough throughout. As a rule, there may also be seen patches of false membrane in true croup. For the points of distinction from diphtheria I refer to what I said above. This disease should not be confounded with laryngismus stridulus, or with paralysis of muscles of the glottis. Again, while the malignancy of true croup is frightful, false croup is seldom fatal. Prof Howard said in his lectures of 1875 that he had never seen a case of death from false croup alone.

Prognosis There remains but little to be said of the likely termination. In children of seven years of age or over, the prognosis is better than when younger. Even when we have every reason to believe that recovery

will take place we must be very cautious in giving an opinion, as this is a most treacherous disease. When there is great dyspnoea, stridulous expiration as well as inspiration, paleness of surface, pulse more and more frequent and weaker, the prognosis is very bad, while if the membrane is thrown off, symptoms abate, and epithelium begins to form, the prognosis is more favorable.

Orders of Respiration

As to this, I do not know that I can do better than quote Aitken, He says "Opinions are very much divided as to the nature of the epidemic influence, and whether or not the disease is contagious or infectious"

Prophylaxis

In no disease probably does that most important branch of medicine, Hygiene, accomplish more than in the prevention of Croup. The child should take daily exercise in open air, when it is at all pit-

but must be kept in during a north or north East wind, and in damp raw weather. Frequent bathing of neck and throat in cold water, but it must be wiped very dry and flannel always worn, (as indeed should always be done by children and town gentlepersons,) avoid a hot dry, and otherwise irritating atmosphere.

A vessel of water should always be kept upon the stove or beneath the register, in such a manner that the heat will pass over it, and above all things, the child should not be raised like a hot house plant, nor should it be foolishly exposed, as the laity are sometimes disposed to do, with the idea of lessening its susceptibility to Croup. But the nursery must be well ventilated at all seasons, and if possible, have an open wood fire.

Remedy There are so many remedies proposed, and some so directly contrary that I cannot but be struck with the force of Prof. Howard's remark, that whenever you see so many medicines named as being of especial value in a disease, you may be sure that they are none specifics. It is well while waiting for the physician, to give the child hot drink, wrap him up warm, and apply hot wet sponges to the throat. It may be well, in any stage of disease if it is primary, to give a depressing emetic, but this is seldom called for. Ipecacuana may sometimes be given, though sulphate of Zn, you is by far the best emetic we can use. Sulph. Zinc. in one or two grs, and repeated in ten minutes, if Emesis is not produced, or smaller doses repeated oftener, is sometimes used with good effect. Emetics are only called for when

obstructing membrane block up the air passages, and the child cannot cough it up. We should be very careful to give the Sulph. Cop in doses large enough to produce emesis, and discontinue it when not needed and ~~when~~ no vomiting follows its use, and when there is a passage of it through the bowels.

℞. Sulph. Cop.gr X — XV.

Aquae ℥ ii

M. S. Give a large tea spoonful every 5 minutes until vomiting sets in. The atomizer of Codman and Shurtleff is invaluable in the treatment of croup. A full and steady stream of vapor is kept up by means of a spirit lamp without any suction, and Lewis Smith says he uses the lime water of the shops for its supposed solvent effects upon the membrane. The temperature

Of the room should be 75 or 80° and very moist and warm. The inhalation of steam sometimes appears to be followed by especial benefit, and in ordinary cases cold applied over the larynx is followed by great good. Dr Lewis Smith, in his work of 1876 prefers cold, to warm poultices or other warm applications. The best way of applying it, he says, to take a piece of salt pork, dust some Camphor upon it to make it more irritating and apply this to the front of the neck, and over this place a bladder of ice.

Bleeding should never be practised in true croup. In the early stages Cuticular scarification may sometimes be called for in robust children. It is sometimes well to administer a Cathartic (to give the diaphragm room to act, by evacuating the bowels) A good one is three (3) parts water and one (1) of vinegar given cold.

While Niemeyer and Lewis Smith both think it very doubtful whether or not Calomel has any effect upon false membrane, both strongly advise its use in small repeated doses. Prof Meredith also uses it and with benefit. It is important however to bear in mind the remarks of Prof. Chew. He says, because Calomel does not salivate Children so readily it is the more necessary that it be carefully employed, for by its tardiness to produce salivation one loses an important guide for stopping its use, for though it may not salivate so readily, it acts upon the system as rapidly as in adult life.

Would not quinine in early stages be of advantage by paralyzing the white Corpuscles, stopping their ameboid movements,

and preventing effusions? It is also an antipyretic and a tonic. Iodide of potassium might also be of advantage owing to its constitutional effects and absorbent powers.

Chlorate of Potash has a good effect.

The following is an excellent prescription:

℞ Potas. Chlorat. ℥i
Ammon Muriat. ℈ii
Syr Simplic. ℥i
Aq. ℥iii

Mt. S. Give one to two teaspoonfuls every half hour or hourly to a child from 3 to 5 years old.

The following is I Lewis Smith's favorite prescription, for which he claims very great merit. It will be found in his work of the year 1876, ~~and will be found~~ in his

treatise on croup, page 492.

℞ Acidi Carbolici gtt v—x

Liq. ferri Subsulphat ʒiii

Glycerini ℥i

M. S. To be applied from 3 to 6 hours.

also the following;

℞ Bromidii. ʒii

Potas. Bromid gr. x.x.x.

M. S. 20 to 40 drops to ℥j ℥i and apply locally.

Besides the above remedies there are numerous others, all of which possess more or less virtue, and often one fails we can try another.

Tracheotomy appears to be steadily gaining ground. This is, probably owing to the fact that it is now more promptly performed than formerly.

and not defined as formerly, until the air in the lung has become rarified, producing a condition in the chest similar to that caused upon the skin by a dry cup, nor until the patient has been roused by emetics and the like, or poisoned by Carbonic acid. The responsibility attending tracheotomy should be borne in mind and the reproaches which might follow if death should ensue.

There is no doubt however, that there are many cases in which this is the only ~~remedy~~ effectual remedy, and when the physician has decided upon its use, he must act with promptness and energy. A good surgeon might, in an urgent case, perform the operation with a

pocket knife and quill, but great care is required to avoid cutting the vessels.

After the operation, appropriate means should be adopted to secure the proper passage of air, for by rendering it too cold, it would reach the bronchial tubes in a condition to produce catarrh or other trouble.

Give good nutritious food that readily digested. Watch the state of the patient's health, and combat such symptoms as may arise.

To perform Tracheotomy successfully, requires a thorough knowledge of the anatomical relations of the part, and for this information, and the mode of operating, I refer the reader to suitable works.

The one last point that I shall mention can never be too highly appreciated, and that is the value of time. If the child be given to fail, no restorative means should be spared, every moment life is prolonged is of inestimable value, the membrane possibly undergoing that change which tends to end in its ejection.